An Address
ON
NEUROLOGY AND THERAPEUTICS.

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(Concluded from page 850.)

BUT I must ask you to retrace your steps in order to gain a clear conception of the nature of the processes that take place in their relation to treatment. The first step in the process of analysis was that the white columns of the cord were resolved into their functional constituent tracts—resolved by the distinctions effected by processes of disease and its consequent decay. But meanwhile another process of analysis was taking place. This process was one of extreme importance and extreme interest. It rested partly upon direct observation and partly on inductions of a theoretical nature founded on those observations; and, strange to say, even the observations have been to a large extent lost sight of. They were the researches of the elder Remak, of Max Schulte, corroborated by the scarcely less important investigations of our own Beale. Before then, and indeed since then, the axis cylinder of a nerve fibre has been thought of as a unit, as a solid conducting substance comparable to a conducting wire through which a current of electricity passes, and a bundle of nerves has been thought of as analogous to a submarine electrical cable. But the number of separate units, capable of isolated conduction, contained in such a structure is wholly incommensurate with the needs, motor or sensory, of the parts to which the nerve goes. So incommensurate, indeed, is the nerve that the ultimate result is not a little remarkable, since it has led one of the latest writers on the subject to deny the possibility of demonstrated facts because the nerves fail to furnish a sufficient number of separate elements to subserve the separate and distinct functions that can be observed. The marvellous discrimination of sensation in the skin, the way in which touch, heat, cold and pain are distinguished in the most minute areas of the integument, is one of the most remarkable and most mysterious phenomena of the nervous functions; and it must be confessed that we are unable to discern adequate mechanisms for this function if we regard the axis cylinders as separate structures capable only of separate function. But thirty years ago the researches of the investigators to whom I have referred established a fact which has been, like so many other facts, lately rediscovered. They observed that the axis cylinders of nerve fibres are not solid concrete objects; they observed that these axis cylinders consist really of a number of separate fibrillæ, not only separate but separated by interstitial tissue, and probably isolated to such an extent as to be capable of separate conduction, so that each constitutes a path having a distinct termination, distinct in the periphery and distinct in the centre, and that every nerve fibre may not improbably represent a structure as complex, as complicated, as the whole nerve, but of equal capacity for elaborate and even multiple function. The division of the axis cylinders, at the periphery and in the centre, doubtless consists in the separation of the fibrillæ.

However great may be the difficulty in discovering the needed room for the function which undoubtedly exists in nerve elements as generally conceived, this difficulty disappears before the conception which I have described. It is marvellous in its multiciplicity, but it is not more marvellous than the multiciplicity of function, and we must not hesitate or pause at perceiving the correspondence of structural arrangement with functional needs. But this idea leaves us only on the threshold of the analysis which we must boldly face if we are to perceive our therapeutic needs and the manner in which these must be met. The conception of the fibrillar structure of the axis cylinder is a matter of direct observation and capable of actual depiction. Beyond it the eye of reason must guide us, for actual observation leaves us far above the region in which the chemical processes take place with which we are concerned, and in these alone can we look for the processes which subserve function, for the beginnings of disease and for the beginnings of such restoration to health as we can achieve by means of treatment. In what manner the fibrillæ are made up of these molecules we cannot even conjecture, any more than we can conjecture the manner in which the molecules are made up of the atoms of which they undoubtedly consist. But here we have an organic laboratory in which nerve energy is being for ever evolved, in ordered or disordered form; here we have a laboratory in which the atomic processes are at work unceasingly, with the results which we feel and see, although we cannot trace and cannot even guess the path by which they are attained. As I have said, it is in these molecules that we must look for the chemical processes by which the nerve energy is produced that manifests itself as what we term functional activity. The great fact for us, the all-important fact indeed, is that the process is one of chemical nature. It brings the action of the nerve elements into the range of chemical phenomena, alike in health and in disease; and, what is for us the essential application, it brings chemical therapeutics to our doors. I am far from disparaging the non-chemical methods of treatment. Without doubt by their aid much is achieved, and much more will be achieved as the conditions of their use come to be better known and the indications for them better understood. But the problem to which I wish especially to direct your attention to-night is the value of chemical therapeutics and the rational foundation which can be discerned for it in the facts I have mentioned.

The first therapeutical principle to which I am anxious to direct your earnest attention, or rather I should say to ask permission to do so—for so elementary is it that I dare not venture to do more at the outset than to ask for this permission—it is that whenever you have to treat, or to endeavour to treat, a morbid process in the nervous system, before you consider what means you should adopt, you should strive to frame a mental picture of the process itself—an image of the changes that are taking place, molecular or massive; of the relations of the symptoms to the process which they manifest; and of the manner and degree in which these symptoms depend on either the primary process of the disease or on its secondary effects. Only when you have done this should you consider the practical problem of the best method of dealing with the changes which give rise to the symptoms. This may not seem a rapid process, and the need for it may not seem a sanguine doctrine (unhappily, few doctrines which relate to the therapeutics of diseases of the nervous system and can be regarded as approximately trustworthy are safely rapid in execution or can be looked upon as sanguine in nature); still, it is not at all unhopeful, and each day's researches increase distinctly the prospect that success will attend its right application in a larger number of cases and that deliberate thought will prove more and more essential for this result. Kindly remember the words I used, "When the primary process of disease is molecular or massive." I had a special reason for thus using the term "primary." Whatever be the original morbid process, the symptoms themselves invariably depend on the minute changes, and it is most important to grasp the fact that these changes are independent in their nature of that of the primary disease. If the primary morbid process is a massive one, as a tumour of the brain, the symptoms which manifest its presence and declare its character are of minute nature, consisting in molecular alterations in the nerve elements and similar to those which constitute the primary change in many diseases which have no massive cause. They are similar, for instance, even to the alterations in the diseases which we term "degenerative" and commence in the molecules themselves. The effects of a gross specific disease, such as disease of an artery causing softening, may differ very little from those of a degenerative specific disease such as consists in the multiple alterations in the peripheral nerves in the limbs or the spinal cord, which are apt to supervene at a somewhat later stage and may constitute the malady we term "tabes." How profoundly important this fact is in its therapeutical relations, how it explains the limitations to our power of treating each disease, I need hardly pause to point out to you.

The first great fact is that the source of nerve force is chemical energy. I ought perhaps to say that it is the marvellous opponent of chemical agency by which this force is held latent and only released under certain conditions; but here we step into the region of that which is still the transcendental and almost too mysterious to be discussed.

Moreover, we cannot tell, we cannot even conjecture, what processes may be conjoined with that of the apparently simple transformation of the energy of chemical into nerve force, by what these may be influenced and to what they may be ultimately due. We must therefore leave a gap in the process of our thought and must not assume that the series of events which we perceive to be consecutive is really unbroken by others that we cannot discern, at least in any certain manner. But of the great fact of the source of nerve energy we may feel sure. It is established by too many corroborative chains of evidence to permit us to entertain any doubt of its validity, and it is of extreme importance for our present subject. If chemical force takes so important, not to say predominant, a part in the functions of the nervous system, it is not surprising to find that chemical substances and the energy they bear, assume an equally prominent part in the production of the abnormal forms of action which we term "disease." The extent to which chemical agents generate disease was indeed scarcely suspected until the last few years, but during that time it has been amply demonstrated and amply confirmed. The example of it which is the best-known and is at the same time perhaps the most typical in its cause and its characters is the multiple inflammation of the peripheral nerves which is produced by alcohol. Although this was thought at first to be peri-neuritic, to have its seat in the interstitial tissue and in the tissue of the nerve sheath, it is now abundantly proved by repeated observations that the nerve elements themselves are the structures which are primarily affected and that it must be upon these that the chemical agent is able to exert its influence. Analogous facts have been established with respect to arsenic and many other substances. We now see that chemical substances must be placed amongst the most important morbid agents capable of producing disease, and they produce disease, in point of fact, every day. The inflammations and degenerations, at any rate those which are symmetrical and are produced through the agency of a blood state, are produced through chemical agency and through this alone. Note that unexpected results followed from this discovery. The perception of the nature of the acute specific diseases and of their dependence upon an "organised virus" entailed a corresponding application to the sequelæ of these diseases in the central nervous system. It was natural to refer these sequelæ to the influence of an agent of the same nature as that which caused the primary malady; but our eyes are to some extent blinded by an excess of light. When we perceived how potent was the capacity for producing disease of the growth of the organisms which constituted the "virus," it was natural to ascribe to this not only the malady itself, but its sequelæ, and to lose sight of the secondary consequences and indirect effects. It did not occur to us that it might not be correct to discard the older views so completely as we were disposed to do under the influence of the new theory. Men of science are strangely slow to learn the lesson which the swinging pendulum presents to them each day—the lesson of truth between extremes. They forget how seldom it is that old truths disappear before the new, although the scope of their application may be greatly reduced. In the case we are now dealing with, this has been true in a conspicuous degree.

In considering the relation between the apparent cause and the apparent consequence, the first fact that forces itself on the observer's mind is the extreme irregularity of that relation, the great variation that is to be perceived in the time at which the effects on the nervous system result from the cause of the acute specific disease. On the general system the effects are produced within a certain limited time in the case both of acute and of subacute maladies, but on the nervous system the consequences are often long delayed—they may be delayed for weeks or months, or even for a year or more. It is difficult to give an explanation of this strange phenomenon except on the theory that it is the result of the action of a chemical agent and not of a living poison consisting of living organisms. Such a chemical agent may act on the nerve elements directly or indirectly, lowering their function or reducing their power of vital endurance, and in either case bringing about the same result at a near or distant period of time; but we cannot refer it to the growth of the organisms themselves. A similar diversity, of similar significance, is presented by the great disparity in the intensity of the symptoms of the primary disease and of its late consequence. We can only understand this on the hypothesis that the connexion is indirect and is better explained by such a hypothesis as that at which I have hinted than by any other. I might multiply analogous facts, but it is of more importance to ask what do they teach, what lesson do they suggest to us? Note the salient features that we have remarked. Nerve force is in some way a product of chemical force, a result of the transformation of the chemical energy contained in the molecules that make up the nerve elements and are themselves made up of the atoms whose existence we are compelled to assume. These atoms are derived from the material taken into the system, and by them the chemical energy is conveyed to the molecules. Their nature, the nature of the material taken in, thus determines the character of the energy which is liberated when the chemical processes occur between them and permit the transformation of the chemical force into nerve force. Thus the character of the latter depends on the processes of nutrition which are determined by the nature of the material taken into the system and by its affinity for that which it already finds there. Some of the material may be inert—the atoms are incapable of effecting any change in the constitution of the molecules or in their function; some is suited to promote normal nutrition and to facilitate the liberation of energy in a normal manner; some degrades the processes of nutrition and leads to the abnormal action or imperfect action which we term "morbid," and this may even induce, slowly or rapidly, the molecular decay that we term "degeneration"; lastly, if such abnormal nutrition already exists, we can perceive the possibility that it may be changed, that it may be augmented or lessened, by the influence of atoms thus introduced into the molecules, and that their function may be altered by the chemical processes which are thus induced. We seem to have, in these considerations, a rational basis for the use of drugs in the treatment of many diseases of the nervous system. The work of innumerable generations of practitioners in their endeavours to treat these diseases has consisted mainly or exclusively in the application to them of the influence that is to be obtained from such chemical compounds. It was from these that they sought to gain the power they needed, and their efforts were believed by them not seldom to be crowned with success, if not complete, at least not to be disparaged. This method held its dominant position until the present generation, which has witnessed the advent of other methods, to some extent the rivals of the older one, to some extent its successors. The degree in which they can be regarded as its successful competitors is, however, a matter of opinion, but it is certain that they have led their advocates to disparage the method of treatment by the use of drugs to an extent which is at any rate large and possibly unjustifiable. Under these circumstances, it has seemed to me important to note the firm foundation which modern observation as well as ancient experience supply to the method in question. We have already, sufficiently for our purpose, glanced at the most important points connected with this evidence; but I have still to point out how pertinently the latest results of therapeutic science afford confirmation to the opinion and practice which have influenced so many of those whose wisdom we are perhaps rather too ready to doubt in the new light we have gained.

What is the latest result of therapeutic science? What is the latest product of therapeutic investigation? Can anything be adduced which deserves a place by the side of the tuberculin of Koch? It does not matter how such substances were discovered or are obtained. However important these conditions may be, they do not affect the fundamental fact underlying their manifestations and on account of which I have thus dwelt upon them. The important fact for us is that they are chemical in nature and must produce their effects by the chemical processes into which they can enter and by the chemical force which they can evolve under certain peculiar conditions. The latest result of therapeutic science is thus at one with her earliest efforts: an action through a chemical agent by the mechanism of chemical energy.

The last point to which I would allude is one of a more personal nature, based upon personal experience. My own observations have given me, as regards certain classes of diseases, strong and increasing confirmation of the practice of our predecessors. The affections to which I refer are those which consist in and depend upon primary alterations in the molecular nutrition of the nerve elements, manifested by disturbance of their function, either transient or so persistent as to imply alterations of structure. These diseases include the maladies that we can most surely trace in many cases to the influence of chemical agents. They also include others of similar features in which such causation is not traceable, but in which we may reasonably assume that a similar molecular process is

manifested by them, although due to a different cause. These are the extensive class of affections that we term "functional," whilst the others include the equally extensive class of "nutritional" diseases. In both of them the beneficial influence of drugs appears to me to be beyond question. They need to be chosen with judgment, changed with discrimination and employed with perseverance—perseverance alike on the part of the patient and the practitioner. Given these conditions, I have been surprised at the amount of good that has been done in affections commonly looked upon as intractable—relief, arrest and restoration. With each successive year's experience it seems to me greater and more distinct and to elicit more gratitude from the patients to whom it is applied. I regret that lack of time precludes any attempt to illustrate this statement, but my object is attained if I can succeed in bringing home to your minds the reasonableness of the experience and in encouraging you to keep your grasp of the old when you seize the new.

A Clinical Lecture
ON
POST-PARTUM HÆMORRHAGE,
WITH ESPECIAL REFERENCE TO ITS TREATMENT BY COMPRESSION OF THE AORTA.

Delivered at the Ancoats Hospital, Manchester,

BY E. STANMORE BISHOP, F.R.C.S.ENG.

THERE is probably no condition which a medical man has to treat more full of sudden and overwhelming anxiety than that presented by a patient suffering from post-partum hæmorrhage. Within a few moments a woman, apparently well and satisfactorily recovering from, it may be, a normal confinement, is suddenly transformed into a white, cold, anxious, haggard creature, gasping for breath, whilst all the blood in her body appears to be rushing in one full stream from the vagina. There is no time for consultation, no time for weighing or balancing methods of treatment. The woman's life depends upon the action taken during the next few minutes—often terribly few—and the sole responsibility rests upon the man who happens to be in charge, and who is, with this frightful suddenness, called upon to act. If you have carefully studied the subject beforehand, you run the risk—and a great one it is—of being confused by an *embarras de richesses*. Too many things to choose from are as bad as none at all; squeezing the uterus with the hand outside, passing the hand into the uterus, injecting hot water into the uterus, ice-cold water, perchloride of iron, hot water and vinegar, pure turpentine, whisky and water, hypodermic injections of ergotine, sulphuric ether or caffeine, packing the uterus with tampons or with sponge, either simple or soaked in perchloride of iron, plugging the vagina, introducing ice, the application of electricity, subcutaneous injections of saline fluid—each and all of these have recently been advised and strongly recommended by men whose names carry authority on the subject, and I can fancy no more unlucky or miserable man than the unfortunate junior practitioner who remembered them all and vainly tried to carry them into effect at such a time. "Shall I inject hot water? But Dr. So-and-so advises ice-cold. Is there any hot water? Is there any ice? Where is the turpentine? If the first few syringefuls do not affect the hæmorrhage, shall I plug? If so, the uterus or the vagina, or both? I have authority for all. And, oh, what have I been thinking of not to inject ergotine to start with?" Now, I have always contended that, though authority is a good thing, yet if we are to do things simply because an authority advises them and not use our own brains, then authority becomes a very bad thing. The very authority you are quoting might possibly alter his opinion, and therefore his advice, were he in your place and judging the immediate circumstances and surroundings of the particular case you are interested in. So we must try to grasp the essential facts of the case ourselves and exercise, above all things, the sense of proportion.

Here is a woman who was in normal health a few minutes ago, rather exhausted possibly—we may say probably. Her tissues have perhaps been somewhat torn; possibly the uterine cervix itself is torn; perhaps she has a predisposition to bleed, though that is a rare condition, and it is a mistake to be always expecting rare cases. Do not therefore jump to the conclusion that this is a case rarely seen before by anyone and necessarily fatal. Such an idea only unnerves you and is almost always untrue. Besides, even if true, it does not materially alter the terms of the problem and therefore will not interfere with your first and primary duty. What has happened? As we know, after the expulsion of the child the uterus should contract, peeling off by such contractions the placenta and closing one by one the open sinuses answering to it and communicating with the bloodvessels supplying the uterus. If there is any tear of the uterine tissue—the neck, for instance—the same contractions should close the bloodvessels opening in it. The cross muscular fibres act as so many ligatures, tying up tightly the open mouths of these vessels and allowing of the formation of a clot behind, up to the nearest branch, which clot, when firm and firmly united to the wall of the vessel, is the ultimate and permanent hæmostatic. Now for some reason these contractions do not take place, therefore the vessels remain open upon the internal face of the uterus and in any tear of the cervix &c. There being nothing to prevent it, the entire force of the circulation is brought to bear upon these open mouths, blood being constantly driven through them and out of them with every pulsation of the heart. The muscular fibres do not contract and the vessel mouths remain open. Obstructing clots do not therefore form in the only spot where they can do good—that is, in the vessels themselves. Now notice this: Blood is poured out with great force and in large volume, whilst there is sufficient of it to keep the system in such a condition that muscular fibre would soon recover if it were stopped, but less and less as the body becomes drained, and the muscular fibre of the uterus has less and less chance of recovering its vital force; this is as true in the case of bleeders as in any other. Time, then, is of exquisite importance, because the longer hæmorrhage lasts the longer it is likely to continue, and a remedy which takes time to act is less likely to have any material left capable of being acted upon. As the bleeding proceeds, the muscular fibre of the uterus, in common with all the other tissues of the body, loses more and more of its vitality and is less ready to react. In almost all other hæmorrhages, we trust to extraneous ligatures and they act irrespectively of the bodily vigour—here our ligatures are part of the body itself and become progressively feebler. So we must have a remedy that will act, as the Yankees say, "on the jump." At first sight, we only seem to have intensified our anxiety, but a little further consideration will make things clearer. Consider the various remedies advised. They all act on one or other of two principles. One is to excite by all means the action of the uterine fibres. But why do they no longer work? Because they are tired, for that is what inertia means, and we know that tired muscles will not act satisfactorily until they have had a rest. You may get spasmodic action, but that is not of much use, and will soon die out again. Rest must be had for the uterus, at all events for a short period. The other principle is to cause coagulation of the blood in or over the bleeding points. But consider that formation of clots in a loose cavity over a free surface is opposed by all the force of the circulation acting at various angles to that surface, and you will not be surprised, although greatly chagrined, at seeing after all your efforts a thin red line, gradually becoming wider and fuller, creeping over all the blackened clotted blood that has collected in the vagina and around the vulva. Meanwhile time has gone, is going; the patient is steadily becoming weaker, the blood thinner and less fitted to form a reliable plug when once the fibres can be made to contract. But surely in no other field of surgery should we attempt to act in this way. What would be thought of a man who attempted to stop hæmorrhage from a large wound in a limb by pouring perchloride of iron over it, or who tried to plug up the myriads of jets of a large fountain by putty or any other more reliable material? or who attempted to stop its playing, indeed, by any other way than in the one case by a tourniquet followed by ligatures, in the other by turning off the tap? The placental site of a relaxed uterus is practically a large fountain of which the jets are innumerable, playing not in plain air, but into a cavity in free connexion with the open air. But though the jets are innumerable they have a common origin. They are all the ultimate ends of four arteries, and these four are in pairs: the uterine arteries which come from the internal iliacs and the ovarian arteries from the aorta

higher up. Of these the uterine are by far the most important, the ovarian being comparatively small. The uterine arteries through the internal and common iliacs start from a common source, the aorta, and can be controlled with the greatest ease by pressure upon it. The condition of the patient is peculiarly adapted for such pressure. The walls of the abdomen are relaxed to their utmost, partly in consequence of the collapsed condition of the patient herself, but mainly because they have been stretched and weakened by the previous pregnancy and now lie flaccid and resistless over the abdominal contents. At such a time no chloroform is needed to overcome the tonic contractions of the recti, usually such an effective opponent to palpation of the pelvis. The hand sinks in them without opposition until the sacral promontory is felt, and immediately above and to the left the main artery is discovered, pulsating, it may be, faintly, but always plainly. Pressure upon, and compression of, this artery are easy, backed as it is by the resisting spinal column. Such pressure might be exerted by an abdominal tourniquet, but the left hand is far better. The rigid pressure of an instrument might do harm and could not easily be varied. The left hand, doubled as a fist and laid with its ulnar surface downwards, is elastic and soft, though yet absolutely firm; the tourniquet is not always in readiness, the hand is; the tourniquet cannot judge of returning force and vigor in the pulsation beneath, the hand recognises every variation in the beat. Moreover, the hand can be shifted upwards or downwards along the spine over the vessel as pressure on one spot or another becomes painful or irksome to the patient. Whilst the left hand firmly compresses the aorta the right can be employed in grasping and kneading the uterus, thus both compressing the ovarian arteries and exciting the muscular walls to contract. Not only does pressure used in this way effectually stop the torrent of blood from the placental site, but it helps to bring about in the best possible way the final hæmostasis—that produced by the formation of reliable clots in the small vessels themselves. It is well known that whilst an artery is spurting freely, with all the force of the circulation driving the blood through its lumen, the particles of fibrin have no time to form and collect so as to form a firm clot; they are driven out as quickly as they form. But if the force of the current is lessened whilst yet the fibrogenetic power is in full activity, there is a prospect of the vessel becoming plugged to its nearest branch. This is greatly decreased if the force is only reduced by the gradually decreasing vitality of the patient; the blood is then thinner, more watery and of far less use for the purpose. By this manœuvre also time is gained—time for the tired muscular fibres to rest and become once more energetic; time for ergotin subcutaneously injected, or this or other drugs taken by the mouth, to become absorbed and manifest their own peculiar effects; time for the collapsed and dying patient to revive, absorb nourishment and renew the fight for life. Now you will see what I mean by the sense of proportion. All these other remedies mentioned at first may be of use at certain times and in various cases. The injection of ergotin, the introduction of a sponge, the use of electricity, washing out with hot water, and the use of ice or tampons are all useful and may be employed with great advantage; but a man who has them all equally present to his mind and looks upon them all as of about equal value and to be used primarily will not only be hopelessly confused as to choice, but will be acutely miserable, for should his patient die he will always be haunted by the thought that it was the one thing he did not do that would have succeeded. If he used ice, he should have used hot water; if he injected ergotin, it should have been caffeine—or *vice versâ;* and there is no possibility of doing all in five to fifteen minutes, which means life or death to the woman whose life is in his hands. There must be one thing to be done at once, and that is to turn off the tap. When once that is done you have gained time for the patient to recover from the shock, time for yourself to recover your wits, time for the ergotin to act, time for the tired fibres to rest, time to introduce the sponge or tampon with certainty that they will not be sonked through in two minutes and act rather as a drain than as an excitant to contraction, and time to supply by hot beef-tea, hot milk and stimulants fresh pabulum to make up for what is lost. This, then, must always be the primary indication, the remedy of primary importance; the others are secondary, though very important also, but the sense of proportion in their use should never be lost. This is no new theory, no new practice. The surgical instinct present in all practical obstetricians has ensured its adoption almost as a matter of course in ordinary work; but the surgeons in large obstetrical practice in the country, where most of these accidents happen and which force men to act for themselves, do not, as a rule, write or speak much. They have no time, but rather hand down from father to son, and from partner to partner, unwritten rules which they have found invaluable. It is because the good old-fashioned plan of apprenticeship has died out that it becomes necessary to emphasise to younger practitioners the need of such a guide, more especially since, at a recent congress of obstetrical authorities discussing this subject, stress was laid upon everything but the most essential, probably because it was thought too elementary and a matter of course for any time to be devoted to it. As medical education is now conducted, however, junior practitioners have no means of learning such things and it becomes necessary to speak plainly about them. Cases could be given in any number to illustrate this point, but one or two are as good as a hundred.

CASE 1.—A weakly, strumous woman aged twenty-six, primipara. Normal labour; the placenta was expelled by natural efforts, but slowly. All was apparently going well, but ten minutes afterwards the patient's face was seen to alter, become white about the lips, the nose was pinched and drawn, the breathing hurried. On examination the bed was found soaked through with blood and the uterus relaxed and rapidly enlarging. The uterus was immediately firmly compressed and its contents squeezed out, and, whilst compression was kept up with the right hand, the left was clenched and placed ulnar side downwards upon the aorta, which could easily be felt just above the sacral promontory. The bleeding ceased almost immediately; the head was then lowered and ergotin injected; but the pressure was maintained for half an hour. As this produced cramp in the surgeon's hand after ten minutes, the nurse's hand was substituted; but she failed to press over the vessel, with the result that flooding again appeared almost immediately, but was again as readily checked by the use of the surgeon's right hand, the nurse being left to compress the uterus. After repeated changing of hands, the vessel being never left uncompressed, and the patient having nearly recovered her natural colour, the pulsation also in the aorta being nearly of normal strength, pressure was gradually reduced. When entirely removed, there was no return of hæmorrhage, nor did any greater discharge than normal occur during her convalescence.

CASE 2.—A woman aged thirty-five, fourth child. I was sent for by the surgeon in attendance, as severe hæmorrhage had set in. On arrival, the patient's condition appeared very critical. She was perfectly white and gasping for breath, with no pulse perceptible at the wrist; she was extremely restless, asking to be allowed to die. She was a typical case of the kind. The surgeon had never seen such a case before, but had plugged her vagina with anything he could lay his hands on, only to find that his plugs were soaked through and that a bright red stream was fast dribbling by their side. He had given ergot at first in large quantities, but no effect appeared to be produced and he eagerly asked for ergotin for hypodermic use. Brandy had been given, but was vomited, and the woman, indeed, appeared all but moribund. The hand placed on the abdomen discovered a uterus, the size of a child at the fifth month, full of coagula, but with a little trouble the hand was slipped behind it to find the aorta. It could be felt very feebly beating and was promptly compressed against the spine. At once the bleeding ceased, and after waiting a few minutes, during which the pulsation against the hand became slightly firmer and stronger, the plug was removed and the uterus compressed by the right hand. A large quantity of clot was forced out, and the uterus feebly responded. Pressure upon both aorta and uterus was maintained for half an hour, each surgeon relieving the other; whilst the patient, whose head was kept as low as possible, was fed with small quantities of hot beef-tea and small amounts of brandy. It was very curious to notice the gradual return of force in the aortic pulsation, which, from being so faint as hardly to be felt, became in the course of this time nearly as powerful as ever. When the pressure was finally removed, most gradually, the uterus had firmly contracted, and no bleeding recurred beyond the ordinary lochial discharge. The patient perfectly recovered.

Although in these two illustrative cases I have mentioned that half an hour sufficed to produce the desired result, you must not suppose that you can always succeed in that time; but, whatever time is needed, compression must be kept up until the uterus recovers with the aid of ergot. The

bleeding is stopped by that means, and as you cannot ligature the bleeding vessels yourself you must wait until the uterine fibres do it for you. What would be thought of the surgeon who removed the tourniquet before the bleeding vessels of a limb were ligatured, merely because he was tired of keeping it there? It is necessary to shift the impact of pressure from time to time, as it appears irksome to the patient. There are at least two inches and a half in which to vary it. There is one other and very great advantage to the patient in this method. By aortic compression all the blood available is saved for the vital centres. Even if bleeding had ceased before, it would still be of use to keep the cranial, respiratory and cardiac centres well supplied with blood. The legs can very well dispense with circulation for a while; they may and generally will ache for a day or so afterwards; however that is the worst; but if the cranial centres receive no blood it will not matter much to the patient whether she has legs or not.

To sum up. Aortic compression combined with compression of the uterus is the one primary duty in cases of post-partum hæmorrhage. Other measures will assist but can never replace it.

ON SOME ANOMALIES IN THE CLINICAL MANIFESTATIONS OF ENTERIC FEVER AND PNEUMONIA.

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FORMERLY SURGEON TO THE CUMBERLAND INFIRMARY.

(Concluded from p. 854.)

ENTERIC FEVER at its commencement may present the appearance of acute rheumatism. I have notes of a case in which, with the usual signs of this disease marked by fever, by sweating and by swelling of one or more joints, the picture was complete, and yet ere a week had elapsed these specific signs had passed away and the outlines of an attack of enteric fever, running afterwards a normal course, were first recognisable. So it may even be with acute abdominal inflammation. Tenderness and gurgling on pressure in the right iliac fossa are phenomena not unfrequent when enteric fever is on the march, but they are uncommon as ushering it in. Yet it may so happen, as the following cases show.

CASES 14 and 15.—A healthy manservant, aged thirty, having done his day's work without complaint and retired to rest in seeming health, was seized during the night with very acute pain in the cæcal region; so acute was it that I was summoned many miles to see him. Then he presented all the evidence of an ordinary sharp perityphlitis, the local evidences of which disappeared in four days; but with their disappearance there was no diminution in the temperature range, which was slowly on the ascent until the eighth day, when rose spots, a slightly enlarged spleen &c., betrayed the true character of the illness, an illness which afterwards ran an ordinary course. Again, a lady whilst menstruating was exposed to cold and caught a chill. She had rigor and vomiting with severe and spasmodic pain in the left iliac fossa. On external examination there was found great tenderness on pressure, whilst internally there was detectable fulness in the left fornix. The temperature, despite amelioration in the local condition, rose steadily, until on the sixth day it was 104°. Towards the twelfth day, fever still continuing (101° to 103°), rose spots were detected. Diarrhœa replacing constipation appeared a little later, and she passed through a perfectly developed attack of enteric fever. It is difficult to read aright or even to conjecture the exact relationship between the primary disease and these its anomalous early manifestations, but I incline to think that in both the sufferers the vitality, being lowered by the incubation of the specific disease, yielded to conditions which it is known may in other circumstances induce such localised inflammation and the very existence of which probably hastened the development of the continued fever. That the early association of pneumonia already referred to may have a similar explanation is possible.

Of mania as the prominent early symptom of enteric fever, I have seen one or two examples, and inasmuch as the first I met with was the initial case in a serious outbreak I was for a time in doubt. This much was probable, that a specific cause was at work, for the temperature was 104°, and, as there was, after a few days had passed, no physical evidence of pneumonia, "continued fever" was regarded as a likely diagnosis. So it proved, for after ten days of tumult had passed—during which the patient was at times difficult to control—quietude came and the remaining period of his disease was passed in uneventful tranquillity. And this is the record of the very few such cases that have come under my observation: a very stormy outset succeeded by uneventful progress and a good recovery. Interest pertains to the association between enteric fever and phthisis, for although the disease is by no means unknown amongst those who are the subjects of pulmonary tuberculosis the association is an uncommon one, and so I fancy is that of phthisis as a sequel. Dr. Hilton Fagge, treating of this matter, writes thus: "Can one suppose that the febrile disturbance which often accompanies the early stages of lung diseases where no physical signs may be discoverable has been mistaken for enteric fever in the cases which have been so interpreted?"[1] That this is not always so the following case shows.

CASE 16.—A healthy young woman, aged twenty-four, of healthy parentage, was, during an epidemic of enteric fever, seized with the disease. She had a long and anxious illness, and at the end of it (on the thirtieth day) she was very feeble and very thin. During its later stages she had the signs of some pulmonary consolidation at both bases, but with no evidence of mischief in the upper or middle parts of the lungs. The "lysis" was prolonged, but it was satisfactory and complete, and for nearly a week her evening temperature was normal, whilst the morning temperature was sub-normal. Then without apparent cause it began to ascend, not suddenly, as with relapse, but by slow degrees, and coincidently with this there was detected high-pitched percussion at the right apex, with a slight crackling râle developed by cough at the end of a long inspiration. And this was but the beginning; gradually the process spread, until, in the early days of the summer which followed her winter illness, she sank with a greatly disorganised right upper lobe and evidence of scattered tubercle in the left also. That this was a case of phthisis, the sequel to an attack of enteric fever, there could, short of post-mortem evidence, be no reasonable doubt.

In the clinical picture of enteric fever as drawn by the master hand of Fagge he makes reference to the fact that certain cases of extravasation of urine have been mistaken for enteric fever (this from the resulting symptoms) and advises that inquiry be made as to the condition of the genito-urinary organs in acute febrile conditions. This advice I would emphasise, because it once happened to me in the case of a man of unblemished reputation to find present such severe symptoms of constitutional disturbance without any local cause that "continued fever" was nearly dragged in to explain them, when a specific roseola making its appearance led to the discovery of a hard chancre and the recognition of the fact that the fever and the delirium from which he suffered were really syphilitic in their origin. The likeness between enteric fever and pneumonia is greater than one might at first sight suppose, and thus it is perhaps that the one at times simulates closely the other, whilst it may on occasion present itself in other guise. A pneumonia with long delayed physical signs, with a full abdomen, and with no alteration in pulse-respiration rate, may be difficult to distinguish differentially, whilst its possible origin in septic conditions may bring about so close an association as is well-nigh impossible to dissever. Andral, Grisolle and others have recorded cases of pneumonia with long-delayed physical signs in the adult, whilst Eustace Smith, Enoch and Minot have demonstrated the fact that such an occurrence is not rare when the disease attacks those in early life and that in some of them the local signs may not be discovered until after the crisis. That there may be an approach to this condition and at a more advanced age the following notes will show.

CASE 17.—A gentleman in good health, whilst engaged on a scientific expedition, was exposed for several hours to a dry, cold wind. In the evening he was chilly and ill, and during the night he had a mild rigor with vomiting and diarrhœa. When seen on the following day he was up and dressed and making complaint only of headache and nausea. He had no cough, no quickening of respiration, no pain and no discoverable pulmonary lesion. His temperature was 104°, the pulse 100, and respiration 20. A mild aperient was prescribed and he was sent to bed. In the evening his temperature was 104°, the

[1] Second edition, vol. i., p. 183.

pulse-rate somewhat lower, and respiration unaltered. His chest was again examined with great care but without result. On the following day the morning temperature was 102°, the evening 103°; diarrhœa had ceased and anorexia was less complete, the pulse and respiration rate being unaltered. And thus matters continued until the seventh day of his illness, when it was noticed that his respiration had quickened to nearly 40 per minute, whilst his pulse was only 110. His morning and evening temperatures were always remitted by two degrees and he had apparently some splenic enlargement. At this time he had no cough and no expectoration, whilst physical examination of the chest revealed, with the exception of some coarse bronchial râles, no abnormal change. On the evening of the seventh day he wandered a good deal and passed a bad night. On the eighth day his respiration was still 40, his pulse rate had risen to 120, and his tongue, always coated, was now dry; still nothing but a coarse râle was detectable in the chest. On the ninth day his condition was much the same, his temperature was 102·4°, and the pulse rate and respiration were unaltered, but over the right lung at its base and its middle fine crepitation was to be heard at the end of deep inspiration. In the evening this was more distinct and the breathing was rough, but there was no marked change in the percussion note. He had wandered much during the day, looked dull and oppressed, and his pulse rate, fully 120, was of fair character. After hours of restlessness, in the early morning of the tenth day he fell asleep and was soon noticed to be bathed in perspiration and breathing more calmly. When seen later it was evident from his expression that he was better, a supposition which the pulse rate and temperature amply confirmed. But the striking thing was this, that over the lower two-thirds of his right lung there was now absolute dulness, with loud tubular breathing. This, after being in existence for several days, during which there was steady improvement in the general well-being, cleared as an honest pneumonia clears generally, and he made an excellent recovery.

CASE 18.—A girl aged fourteen, in delicate health, was, without any known exposure to cold and whilst enteric fever existed in the close in which she lived, suddenly seized with severe rigor, headache and vomiting. Her temperature rose to 104°. She had complete anorexia, but had no pain or cough. Her pulse was 120; her respiration 25 per minute. In the evening her temperature was 103° and the general condition the same, and so from day to day there existed a temperature varying from 101·4° in the morning to 103·4° in the evening. The tongue was coated and dry; the pulse varied between 120 and 130, the respiration between 25 and 30. There was no chest pain, a very short cough and no expectoration. Examination of the chest carried out night and morning threw no light on her condition. Late on the evening of the sixth day of her illness she was seen by the late Dr. Angus MacDonald, who pronounced the case unhesitatingly as one of typhoid fever, and certainly the whole aspect was like it. On the seventh day, however, there was some alteration in the percussion note of the right base, and there was certainly present a subcrepitant râle. Towards the evening crisis occurred, marked by profuse sweating, by sleep and by falling temperature, so no examination was made; but on the following morning on turning her in bed I found the middle and lower third of the lung absolutely dull, and this with tubular breathing and a metallic tone of such vocal sound as she could produce. Mastoid abscess coming into evidence only the day after crisis and demanding immediate operation delayed her recovery which, as regarded the lung condition, was quite satisfactory.

Cases 17 and 18 are certainly by far the most pronounced ones of delayed local signs that have ever come under my notice, and they were to me notable because in both instances, from the suddenness and urgency of the early state, I was led to think that they were probably cases of pneumonia, and I was therefore naturally anxious to find in the chest signs a confirmation of this diagnosis. Both patients were seen late in their illness by eminent consultants, men of rank and experience in their profession, and both were regarded by them as cases of enteric fever. For this opinion the delay in physical signs was, I think, alone responsible, for in both more than a week of severe illness had passed ere it was possible to make a correct diagnosis. Abscess of the lung as a sequel of pneumonia is not common, and its treatment is at times beset with difficulty. How dangerous such a condition may become, and how satisfactory surgical treatment at times may prove, the following history will show.

CASE 19.—A stout workman, aged thirty, was seized with the signs of an acute left-sided pleuro-pneumonia. The "point de côté" was for a day or two very severe, and it was quickly followed by signs of effusion. Owing to dyspnœa which marked the case towards the fifth day, and which seemed out of proportion to the amount of lung involved, his doctor aspirated the chest and drew off a certain amount, not large, of clear effusion. This relieved him somewhat and for a time he did well. Crisis arrived and passed, and everything betokened recovery, but after a few days of quiescence, during which there was no marked change in the lower third of the lung, which remained absolutely dull and with distinct tubular breathing, he shivered, had a quick rise of temperature and looked ill. For a week this condition remained; then he began to expectorate foulsmelling sanious-coloured pus, he had a succession of rigors, had some diarrhœa and at times attacks of vomiting. Such was his condition when I first saw him, and it was only too evident from the high temperature, great vital depression and the septic condition in which he was placed—for the air of his room was from its odour intolerable—that his condition was one of profound gravity. From the history and from a careful examination of his chest I hoped that a localised empyema bursting through the lung might explain his state, but repeated and deep insertion of the aspirating needle at various points in the area of dulness convinced me that the harm was pulmonary. Choosing therefore a spot at which the breath sound approached the amphoric, I inserted a large-sized needle. This, when it had penetrated between two and three inches, tapped a cavity, out of which air and fetid pus issued. Guided by the cannula, I made a free incision—for the pleural sac was happily closed—into the cavity, which seemed a fairly large one, and inserted a big-sized drainage-tube. Through this the sac was from time to time irrigated. On the evening of the operation the temperature and the pulse fell and the vomiting disappeared within two days; and, although the diarrhœa lasted for several weeks and he continued from time to time to expectorate pus, he made a steady and satisfactory recovery. When last inquired after, he had been for many months at his work and was in good health. That his condition was one of septicæmia dependent upon the absorption of a peculiarly fetid pus, and that operation saved him from a condition of great gravity, there can be no doubt. Hilton Fagge writes: "There are no sequelæ to pneumonia," and from so high an authority it were presumptuous on my part to dissent; but there is one morbid condition, which I have seen upon more than one occasion in sequence, which is so grave, and which treatment may possibly avert, that I note it here—that is pulmonary thrombosis. The first time I ever saw it in this connexion was in a patient of the late Dr. Thom, of Brampton, Cumberland, in a young vigorous man in excellent health, who passed through a severe attack of left-sided pneumonia, attended by very great dyspnœa and considerable temporary failure in cardiac power. A week after crisis and when all seemed well with him, whilst settling himself in bed for the night he was suddenly seized with the distressing symptoms which attend the presence of a pulmonary thrombosis. Despite the very free use of ammonia, of digitalis, of stimulants and of those means which tend to relieve the pulmonary circulation, he died within twelve hours of his seizure, retaining, as strangely such cases do retain, consciousness of suffering to the last. That the temporary failure of the right heart during the acuteness of his illness had much to do with this sad event is highly probable, and that it is not more frequently a sequel of pneumonia is noteworthy. The favouring condition of thrombosis apart from the state of the blood is retardation of the circulation, and alteration in the endothelium of the great vessels is probably a necessary circumstance. The researches of Ponfick regarding the desquamation of endothelium in acute specific fevers may explain how this latter state may be brought about, whilst circulatory retardation is more or less necessarily present in the affected pulmonary area. Moreover, Brouillard states that blood coagula are apt to form during the pneumonic process, and if this be so the absence of such a sequel is the more remarkable. The lesson I learned and have followed was to be more careful in watching for the early appearance of such signs as indicate right heart failure and to meet them promptly with such drugs as it is known act as true cardiac aids, of which I have found in such conditions none better than strychnia administered with the hypodermic syringe.

Two cases have been already referred to in which a possible connexion—direct or indirect—existed between enteric fever

and pneumonia, and that other specific diseases have an equal power of thus showing themselves is probable. A good many years ago I entertained the suspicion that erysipelas might thus act, when under the following circumstances I was asked to see a bad case of pneumonia with this history:

CASE 20.—A strong, healthy farmer's wife in the latter days of her pregnancy, was seized with shivering, severe pleural pain and high fever. Very quickly the signs of a right-sided pneumonia presented themselves and when they had been in existence for two days she had a rapid and easy delivery. This, however, instead of relieving, seemed to aggravate her condition, for she became steadily worse and the day following the confinement I saw her. Then she presented all the phenomena of severe pneumonia approaching a fatal issue. She had a dull right side; she had the same condition in the lower third of the left lung, and over these areas there was increased vocal resonance, with bronchial breathing and loud, coarse râles. She was cyanotic, had great orthopnœa, a well-nigh uncountable pulse and a high temperature. But her abdomen was quite flat and nowise tender and the lochia were natural. She died within a very short time of my visit, and this within four days of the onset of her disease. So quick was its progress—for it spread over her lungs as an erysipelas spreads over the skin—that we regarded it as septic in its nature and were inclined to think that in the close proximity to the dwelling-house of a sanitarily defective farmyard there probably lay the starting-point of the harm. Moreover, the story of her medical attendant deepened this impression; for, whilst in close and anxious waiting upon her, he was called to attend, at some distance from his patient's dwelling, two women in their confinements, and both these were attacked quickly by puerperal septicæmia. One died rapidly; the other, who after a long and dangerous illness ultimately recovered, I had an opportunity of seeing, and the conditions she presented were those I have known to follow the transmission of the germs of phlegmonous erysipelas to a lying-in woman. Careful investigation showed that in the practice of the doctor there was at that time no other illness capable, so far as is known, of producing such disease; that the cases attended by his assistant all did well, and that when he ceased for a time from obstetric work puerperal matters went well in his neighbourhood.

Two facts antagonistic to my hypothesis were within my knowledge—the first, that authorities then acknowledged no relationship between erysipelas and pneumonia; and the other, that many think one should not hold simple erysipelas responsible for the production of puerperal mischief, for to the graver forms of the disease, notably to phlegmonous erysipelas, belong this power and property. Time and advance in medical science have for me completely disposed of the one objection, and a clinical observation of my own has shaken my confidence in the other.

In the *Gazette des Hôpitaux* of Feb. 19th, 1890, is reported an interesting case occurring in the service of M. Brouardel at the Hôpital de la Pitié, in which a servant girl attending as nurse upon her master, the subject of facial erysipelas, was suddenly attacked with pneumonia of the right base. She became ill on the 23rd, and died on the evening of Dec. 25th. She had no external sign of erysipelas, but the true nature of her malady was not unsuspected. Post-mortem examination showed a pneumonia of the right base, in the exudation from which was found abundant microscopic evidence of the presence of the streptococcus erysipelatosus, a discovery emphasised and corroborated by the fact that inoculation in animals made with a pure culture gave rise to a characteristic erysipelas of the parts surrounding the puncture. On Feb. 18th in the same year (1890) M. Laboulbène, at the Académie de Médecine, stated that he had occasionally seen erysipelas followed by pneumonia of a special kind. In his first case a man, the subject of facial erysipelas, was nursed by his wife, who succumbed to a pneumonia passing from one lung to the other. Six other persons who came to see them had successively a pneumonia, at first localised, then extending to all the lung, gaining finally the other side, and all terminating in death. Moreover, one of these patients had, towards the end of his pneumonia, an erysipelas of the face. M. Laboulbène concludes his communication in these words: "Cette forme de pneumonie double, présentant les allures de l'érysipèle par sa marche invariablement progressive, ne ressemble pas à la pneumonie double ordinaire. Aucun traitement n'a eu d'action sur ces malades. La contagion ne paraît pas douteuse; l'agent contagieux principal est probablement le micro-organisme de l'érysipèle." These to me appear valuable observations, and they tend to confirm the suspicion held that the case of pneumonia in connexion with which they are related was truly an anomalous form of the disease dependent upon the presence of the micro-organism of erysipelas. Then as regards the powerlessness of simple erysipelas to produce puerperal septicæmia I have grave doubts, for although it be contended that the so-called phlegmonous forms of the disease depend upon the presence of other bacteria than that met with in its more ordinary manifestations the identity is after all very close, as the following record shows.

CASE 21.—A vigorous woman, near her term of gestation, was seized with erysipelas of the face and head. She was acutely ill, with a high temperature and a good deal of constitutional disturbance. Her case was anxiously watched. After a few days her temperature fell and convalescence was established. Almost coincidently with this, but happily as a sequence, labour supervened. Care was exercised by the free use of antiseptics to prevent, if possible, any fresh inoculation by the genitalia, and she made a good recovery. Her infant, however, born without difficulty and without visible cutaneous harm, was when two days old attacked by erysipelas of the right arm, which, despite such curative measures as its feeble vitality admitted of, passed rapidly on to diffuse suppuration, to sloughing and to destruction of the elbow-joint. The parent disease here was a simple cutaneous erysipelas; the offspring, due most probably to the feeble organism upon which it was implanted, was typical of the cellulo-cutaneous form of the malady. Therefore the doubt arises with me whether simple erysipelas, implanted probably by inoculation on a woman in labour, will not most probably show itself by such septic manifestations as it is well known are the sequel when the phlegmonous forms are similarly transmitted. That the puerperal condition does at times modify in a wonderful and very grave way the development of zymotic disease when in association with it is the experience of most obstetricians.

Here, then, my inquiry may well end. My endeavour has been to show that the anomalies of the most familiar ailments may lead to difficulty in their true and ready recognition, and that it is only through constant and careful observation and with the widest knowledge of disease in its various forms that the physician can acquire that clinical acumen which will ultimately enable him in most cases to recognise the essential nature of that with which he has to deal.

Cannes, France.

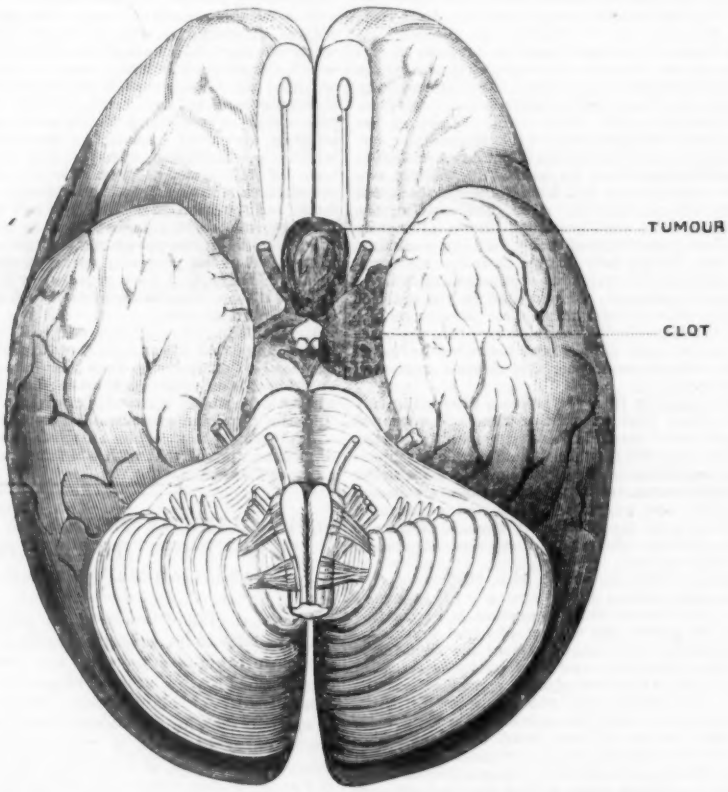
SOME CLINICAL NOTES ON A CASE OF TUMOUR OF THE PITUITARY BODY.

BY WILLIAM WADDELL, M.D. GLAS. &c.

A TYPICAL CASE of tumour of the pituitary body occurred in my practice about eighteen months ago. The patient, a gentleman thirty-nine years of age, consulted me first in September, 1890, on account of general indisposition and some disorder of his digestion. About two months later he specially drew my attention to a deficiency in his power of vision, or, as he called it, "short sight." This he had noticed for upwards of two years, but had failed to obtain any relief, finding rather that, within the few months preceding his visit to me, it had become more pronounced than before. I found that he was suffering from partial bi-temporal hemianopsia. Both eyes were rather prominent, the pupils were equal and reacted equally to light, neither fundus presented any abnormal characteristic, and there was absence of any signs of strabismus or alteration in the movements of either eyelid.

The late Dr. James Ross, by whom the case was also examined, referred the hemianopsia to the presence of an intra-cranial tumour involving the pituitary body, an opinion subsequently confirmed by Dr. Ferrier. The patient was rather short in stature, inclined to stoutness, perfectly clear in intellect and of excellent business capacity. He was habitually disinclined for bodily exertion of any kind and was retiring in disposition. Except for occasional headaches of an ordinary kind his health had been fairly good up to this time. There was entire absence of any history of syphilitic infection nor were there any indications of acromegaly, such as enlargement of the bones of the hands and

feet, and persistent or enlarged thymus gland &c. The reflexes were normal. The only point of importance in his family history was the sudden death of a sister from some obscure but apparently brain disease, intense attacks of pain in the head being the only definite symptom recorded. The first symptom indicating serious activity of the supposed tumour occurred in January, 1891, when, after a visit to Nottingham, he returned suffering from intense frontal headache, with great prostration and rapid short pulse; the axillary temperature was 103° F.; there was a thickly coated tongue, with gastric disturbance, sickness and vomiting; the face was greatly flushed, the eyes were full and injected, and the patient was very drowsy, but unable to sleep. These acute symptoms endured for two or three days, gradually subsiding, and in about a fortnight he had recovered sufficiently to get about again. Slight attacks of frontal pain occurred at intervals. It now required considerable urging to rouse him to any exertion. He would remain for a long time in a quiet, absent-minded condition, from which he would occasionally start and suddenly ask some unimportant question, and would often repeat the same question a short time afterwards. He would refer with remarkable clearness to events that had occurred many years ago, though present events seemed to make little or no impression on his memory. He continued more or less in this condition till, in March, on his return from a health resort, I found well-marked dilatation of the right pupil, and there was only partial reaction to light; the left was normal. There was a general diminution of reflexes. The urine was normal; the pulses even, full and regular. He was dull and lively alternately. The frontal headache, before variable, now assumed a rhythmical character, a more or less violent exacerbation taking place at intervals of about a fortnight. These exacerbations were always preceded by more than usual depression of mind, which was followed in a few hours by a quickening of the pulse rate, a steady rise of the temperature and increasing frontal pain. The face and eyes were invariably suffused, and the bodily prostration and drowsiness were intense. The paroxysm generally lasted from twenty-four to thirty-six hours and then gradually subsided, each time leaving him still weaker. In the month of April, during one of these paroxysms, he was seized with complete right hemiplegia, and lay in a semi-conscious state, with a high pulse and temperature, double strabismus and left pupil (now both) widely dilated. Consciousness began to return in a few hours, following the usual fall of temperature and pulse, the paralysis gradually passed off, first from the leg, and in twenty-four hours there was little trace of it left. Total aphasia existed for about thirty-six hours after the return of consciousness. From this attack the patient never fairly rallied, and recurring attacks of head pain, total loss of powers of assimilation, and formation of bedsores brought about a fatal termination by asthenia about one month later, or about eight months from my first seeing him.



The friends kindly permitted a post-mortem examination, and on removing the skull-cap the brain presented a somewhat shrunken appearance generally. On removing the brain a well-defined tumour of the pituitary body was found, of which the accompanying illustration gives a fair representation. In its obvious characters it was oblong in form, tapering posteriorly and occupying the anterior lobe of the gland, being, properly speaking, the anterior lobe itself greatly hypertrophied. It was firm in consistence, reddish-brown in colour and its measurements were nearly one inch in length and less than three-quarters of an inch in width respectively. It showed no signs of malignancy. Lying immediately to the left was a collection of fluid venous blood, retained in the form of a clot by a fold of membrane. All the structures in its immediate vicinity were markedly vascular. The tumour pressed about equally on the two optic nerves, causing them to bulge outwards. Comparing the symptoms developed during the last eight months of the patient's life with those of the pre-

ceding two years, it is evident that the growth of the tumour, from whatever cause, was as rapid during the first-named period as formerly it had been slow. With the exception of the hemiplegic attack in April there was no paralysis of the limbs throughout, nor was there ever delirium or violence or incontinence of urine or fæces. The causation of the growth remains obscure. The case was brought before the notice of the members of the Manchester Pathological Society during the 1892 session by Mr. Thorburn, of the Royal Infirmary, Manchester, who examined this interesting specimen with me.

Rusholme, Manchester

ON THE IMPORTANCE OF EARLY OPERATION IN CASES OF INTESTINAL OBSTRUCTION.

BY JAMES MURPHY, M.A., M.D.,

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BETWEEN Dec. 13th and 23rd, 1892, I had occasion to open the abdomen twelve times in the Sunderland Infirmary; six of these cases were for intestinal obstruction; the other six all recovered, but do not affect the subject of this paper. Of the six cases of intestinal obstruction, three recovered and three died. These latter might have been saved had it been possible to apply treatment sufficiently early, and I so frequently hear and see fatal results occurring where, as in these cases, treatment was sought too late, or where the gravity of the condition has not been recognised, and precious time has been wasted in ineffectual treatment, that I venture to draw attention to the importance of early operation in cases of intestinal obstruction. I use the words "intestinal obstruction" advisedly, as I do not propose to go minutely into its varieties and the various minute details of treatment suitable for special cases, but rather to consider the general principles on which to act when called upon for its relief. Whether the obstruction be caused by compression from without or by plugging from within, or from any abnormal condition of the intestine itself, and irrespective of its situation, wherever, from the stomach to the anus, there is evidence of obstruction—such as distension, vomiting, retention of flatus and fæces, and pain—it is advisable as rapidly as possible (1) to discover the cause of the obstruction and (2) to remove it. This sounds like a truism. It seems difficult to imagine that any medical practitioner would question it. Surely if a patient suffers from atonic constipation he should be given some particular drug suitable for the condition: if his rectum is loaded with scybala, it should be scooped out; if he has a strangulated hernia it should be reduced by taxis if possible, if not by operation; if one can feel a malignant mass in the rectum that cannot be removed colotomy should be resorted to. So far all are agreed, but when there are symptoms of intestinal obstruction, where the nature of the obstruction is not so apparent, how is one to proceed? One surgeon says "Wait"; another, "Rely on opium—it is a sheet anchor in such a case"; another suggests belladonna, strychnia, &c., massage, electricity &c., or finally "tossing the patient in a blanket"—a piece of archaic surgery recently recommended by one of the most celebrated London surgeons. Well, in such cases I submit that the same principle should hold good—one should discover the cause and remove it; and if there is no other method of doing so one should open the abdomen. Briefly, the notes of the six cases that serve as my text are:—

CASE 1.—A boy aged seven, in failing health for weeks. Sent by Dr. Beveridge. He was considerably emaciated; obstruction had been complete for seven days. The symptoms came on very gradually. Abdominal section revealed tubercular peritonitis with extensive matting of the intestines in several places; the adhesions were cautiously broken down, and the abdomen was washed out with warm boracic lotion and drained. He rallied but slightly and sank in two days.

CASE 2.—A woman aged twenty-six. Sent by Dr. Wingate of Haswell. Ovariotomy had been performed three months previously. Three days before admission there was sudden collapse with complete obstruction. Abdominal section revealed a small adventitious band completely constricting the small intestine. The band being snipped across air immediately dilated the collapsed intestine, the peritoneal coat of which was slightly ulcerated. The bowels were moved three hours after the operation. She recovered.

CASE 3.—A man aged forty-two. Sent by Mr. Shelley. There had been partial obstruction for twelve months, complete for five days. Abdominal section revealed malignant growth of the colon too low down to be removed. The sigmoid was drawn through the incision and secured with numerous catgut sutures. As the vomiting continued and he was much collapsed the colon was opened in thirty hours; an abundant motion followed and he has done well since.

CASE 4.—A man aged thirty-six. Sent by Dr. Pearcey. He had worn a truss for five years. There was a strangulated inguinal hernia of six hours' duration; there was no vomiting. Taxis under chloroform having failed, herniotomy was resorted to and the intestine was found deeply congested, but glistening and apparently healthy. It was returned, as was the sac, and the pillars sutured, but death occurred in fifty hours. At the necropsy extravasation of fæces was found, four inches of intestine being gangrenous and perforated.

CASE 5.—A man aged thirty-four. Sent by Dr. Bernard of Silksworth. There was a strangulated inguinal hernia of four days' duration. He was very collapsed. Taxis under chloroform failed. Herniotomy was performed. Owing to collapse no radical cure was attempted. Death took place in six hours.

CASE 6.—A man aged forty-two. Sent by Mr. Legat. There was a strangulated femoral hernia of fourteen hours' duration; taxis failed. Herniotomy effected a radical cure. (For the sake of brevity full details are omitted.) These cases are not recorded in the order in which they occurred, but are placed in two groups. The first three cases, although a shrewd guess might have been made as to their nature, could not have been accurately diagnosed until the abdomen was opened, and then it was clearly seen that none of them were suitable for "delay," "sheet-anchors," or "blanket-tossing." The last three cases could be accurately diagnosed, but for treatment it was necessary to open the abdomen.

In the three fatal cases, if the patient in Case 1 had applied to Dr. Beveridge some days earlier his life would probably have been prolonged, and possibly he might have been cured; and in the two hernia cases, if the patients had applied in time there is no reason why their lives might not have been saved and their ruptures cured. Both were operated on within two hours of being first seen.

Most surgeons are now agreed that a strangulated hernia should be operated on at once if taxis fails, and that the risk of waiting is infinitely greater than the risk of an immediate operation, more especially as one can at the same time perform a radical cure. Then why should not the same rule apply to an obstruction of the intestine elsewhere? Surely, if one operates early on cases of intussusception, strangulation by bands or openings in the mesentery or omentum, volvulus &c., the results ought to be equally good, and if operation is delayed the results will be equally fatal. In malignant disease the mortality must necessarily be higher when one submits the patient to an enterectomy; but here the mortality will be small if early operation is resorted to and the diseased mass is completely removed, and in cases where it is impossible to remove the malignant growth life may be prolonged and rendered comfortable by establishing an anastomosis between the portions of intestine above and below the disease or by performing a colotomy, the mortality of which has hitherto been *nil* in my experience in the cases where the operation could be performed in two stages with an interval of a few days. But, lest undue importance should be attached to this statement, I am bound to add that my experience of such cases is very limited, comprising certainly not above ten cases, as the great majority come to me when the operation must be completed at once; but even in such cases, unless the intestine has given way or the patient is very much exhausted, the results are such as to warrant me in strongly advocating the operation.

I would, therefore, submit that in cases of intestinal obstruction no time should be lost in the employment of useless remedies or in hoping for impossibilities, but that we should at once discover the cause and remove it, and, if necessary, should not hesitate to open the abdomen.

A CASE OF FACTITIOUS URTICARIA.

BY J. HILTON THOMPSON, M.D. VICT. &c.,
LATE SENIOR RESIDENT MEDICAL OFFICER TO THE CHILDREN'S HOSPITAL, PENDLEBURY.

A YOUTH seventeen years of age, well nourished and healthy looking, stated that since infancy any slight irritation of the skin had been followed in a short time by a wheal, even the friction of a towel used in the ordinary way producing large œdematous patches. At school he escaped corporal punishment owing to the startling effects produced by smacks on the face and hands. When first seen by me the patient had a wheal on the back of his neck corresponding to the upper edge of his collar. In a few seconds after having passed a blunt point over the skin of the face, using about the same amount of force as in writing, a faint red line appeared, in about thirty seconds more the line became distinctly elevated, and when the skin was stretched it appeared as a white streak. This raised line became gradually anæmic, and in about two minutes appeared white, in marked contrast to the surrounding skin. For about ten minutes the wheal became gradually broader until it was about a quarter of an inch in breadth. In

ten minutes more the anæmia was less marked and in about half an hour the appearance of the face was normal, and no irregularity could be felt by passing the finger over the skin. Wheals could be produced on any part of the body, the amount of force required varying with the thickness of the skin. A zone of hyperæmia—more or less well marked according to the vascularity of the part—developed round the wheals. The most likely explanation in this case appears to be that a slight irritation of the skin disorganises the nervous mechanism of the capillaries, as a result of which there is intense vaso-dilatation round the point of injury, and probably there is also a dilatation of the capillaries immediately affected by the pressure and an escape of blood plasma through their walls into the surrounding extra-vascular spaces. Thus a local thickening of the skin is produced, and the local increase of pressure, by forcing the blood from the capillaries in the immediate vicinity, explains the anæmia of the affected area. The increase in the breadth of the wheals is probably due to the exudation going on for some time, and it is only when the exudation has ceased and the pressure has been diminished by the removal of the exudated material that the blood can return to the capillaries and the colour become normal.

Chorley Old-road, Bolton, Lancashire.

HEPATIC PUS IN THE PERITONEUM.

BY SURGEON-CAPTAIN T. SHAW, M.B., B.CH. DUB.

WITH reference to the statement made by Kartulis that the pus of hepatic abscesses following dysentery of hot countries is free from micro-organisms, and its escape into the peritoneal cavity is, therefore, not likely to be followed by peritonitis,[1] the following summary of a case will be of some interest.

On Nov. 10th I found a Hindoo beggar lying on the road in a terribly weak and emaciated condition; he complained of intense pain in, and there were marks of the cautery over, the hepatic region. He was sent to the hospital in Dooly. On physical examination the following condition was revealed. The upper line of the superficial liver dulness reached the upper border of the fifth rib and the lower border of the liver was 10 cm. below the edge of the costal arch (in sterno-mammary line); there was slight bulging and the skin was freely movable and normal to look at; crepitations were heard over the base of the lung. I thought that I detected friction sounds over the prominent liver area; jaundice was marked. The patient complained of pain both on pressure and spontaneously, chronic bronchitis, headache and constipation. On the 11th I explored with a needle below the eighth cartilage in various directions and finally struck some clear reddish serous-looking fluid beneath the right rectus. The needle was directed downwards and backwards. I made a perpendicular incision through the rectus, but found no adhesions; the liver was tense and very red. Pieces of aseptic muslin were packed round the edges of the wound and a trocar was inserted in the place of the needle, but I failed to get anything. Pushing the needle further in I felt a sudden diminution of resistance, which was followed by the appearance of pus in the needle-groove. I cut down along the needle until thin yellow pus and blood gushed out. Pressure from the outside stopped the bleeding. At this stage collapse and almost entire cessation of breathing ensued, the pulse, however, remaining distinctly perceptible. The patient was restored by artificial respiration, by the application of hot towels over the chest, and by ammonia. Meanwhile the muslin packing had become disturbed, and I saw some pus and blood trickling out of sight into the abdominal cavity. The abscess was about the size of a hen's egg, the walls being smooth and soft. After irrigation of the cavity a large drainage-tube was inserted and four peritoneal and some superficial sutures were used to close the wound, which was then dusted with iodoform, the operation being completed by the application of a bandage. I made no attempt to swab any part of the peritoneum, nor did I follow Mr. Treves' method[2] of drying the abscess cavity, the reason being that its walls were soft and smooth. Subsequent progress was very slow and difficult. The temperature, which had remained normal for some days, began to rise in the evening, and more pus began to discharge. I explored the cavity again with a probe and evacuated a second collection of pus, which lay behind the first, by pushing the probe through the very brittle liver tissue. There was no further trouble, except that some sutural abscesses formed, which were soon cured. The abscess was irrigated every day. The patient never once complained of anything pointing to peritoneal mischief. At present (March 11th, 1893) he walks about a good deal and has become very stout, but still suffers from bronchitis. Slight bulging only is visible beside the incision, which may very probably be the starting point of an abdominal hernia. It is impossible to make him limit his diet (which includes *ghi*, or clarified butter). The question of the presence of pus and blood in the peritoneal cavity is important, but the more facts that are known about it the less will one hesitate to open liver abscesses before an irreparable amount of liver tissue has been destroyed. In the present case the liver has returned to its normal dimensions.

Goona.

[1] Vide my case in THE LANCET of Aug. 20th, 1892.
[2] THE LANCET, May 21st, 1892.

THE TREATMENT OF TERTIARY SYPHILIS BY INUNCTION.

BY CAMPBELL WILLIAMS, F.R.C.S. ENG.

UPON such a well-known subject as the treatment of tertiary syphilis one naturally feels diffident before rushing into print. The usual routine practice—namely, that of saturating the patient to varying degrees with the iodides of potash, soda and ammonia—is that most frequently adopted. In some cases this procedure not only fails to clear up the lesion or to arrest the progress of the disease, but may do absolute harm to the patient. Above and beyond the digestive impairment that may ensue and the ordinary well-known iodic symptoms, gangrene may even be induced by its abuse. It is not usual in England to resort to inunction as a method of treatment even in the early stages of the complaint, and much less so in the later. This is probably due to a variety of causes. Amongst others may be cited the difficulty in carrying it out, or the attendant expenses and loss of time may prohibit its use by the patient. By this it will be seen that the method advocated requires the assistance of a trained rubber, for patients cannot properly perform inunction upon themselves. In the private practice of the late Mr. Berkeley Hill it was my good fortune to see a great number of cases treated in this manner with the most successful results, after failure by iodides. It was his intention, had he lived, to have presented to the profession his views upon this method of treatment. He had no faith in iodides as curative agents, but regarded them more as palliative agents. The method enjoined is as follows: The patient is ordered one ounce of mercurial ointment with lanoline and one drachm of olive oil, to be divided into eight packets, one packet to be rubbed in after each bath. Lanoline is a better basis than lard, in that it is free from irritating fatty acids. Mercurial erythema or eczema seldom follows its use, but I have seen rather severe folliculitis. It requires the addition of olive oil to render it less tenacious and to increase its power of penetration. Preparatory to the inunction the patient is made to sit in a hot bath for from ten to fifteen minutes. It is well to start at about 95° F. and to gradually raise the temperature to 100°, or more if it can be borne, until perspiration breaks out upon the forehead. The object is to clean the skin and open its pores. He is then dried and the ointment is thoroughly rubbed in all over the body. By distribution the friction and irritation are not localised. Such a procedure requires at least twenty minutes good work on the part of the rubber. With the exception of Sunday, a daily bath is given. The patient should always be seen after every fifth or sixth bath, for many are intolerant of one-drachm doses and the packets require reduction to 30 or 40 grains. The gums and the pharyngeal mucous membrane must be carefully watched and the patient's weight recorded. Too vigorous treatment in debilitated subjects may cause increase of ulceration instead of promoting granulation; then the amount of the packet should be decreased. At the commencement of the baths the patients not unfrequently complain of languor and lassitude; but this feeling soon wears off. Sometimes they have intestinal symptoms, but the griping is not as acute as in the mouth treatment. This may be due to absorption, but more frequently owing to errors of diet. Occasionally they become slightly anæmic and require tonics. Personally, if the stomach will bear it, I prescribe iron throughout the course of baths. Forty-two baths are reckoned as a course. It is then frequently judicious to give the patient a rest for a fortnight. Specific treatment is either entirely stopped or, should the exigencies of the case demand it, very mild remedies are given by the mouth. A second course of baths, making eighty in all, is then prescribed. In the bulk of cases this has been found to be sufficient. Whilst under inunction the following mouth wash is used: Five drachms of alum, two and a half drachms of acetate of lead, half a drachm of essence of peppermint, warm water to twenty-four ounces. The salts should be dissolved separately; then mix and filter and add the essence to the clear filtrate. The mouth should be washed four or five times a day with this preparation. During the course of the baths the patient is to be ordered to clothe warmly, to be in-doors after seven o'clock and to always put on an overcoat after the bath. He should avoid mental and bodily exhaustion, and take exercise daily short of fatigue. I recommend going to bed early and rising late. The teeth should be cleaned twice daily with precipitated chalk and soap. As regards diet, malt liquors, effervescing wines, acid drinks, coffee, raw fruit, salads, and pickles should be avoided; green vegetables and cooked fruit may be indulged in sparingly; the patient may eat freely of butcher's meat, eggs, fish, game, poultry and light puddings, and drink one or two pints of fresh milk daily.

Before beginning inunction I always examine the patient's mouth. Much of the so-called ptyalism can be avoided if the teeth are scaled, should the gums be spongy owing to the presence of tartar. It is well in these cases to get the patient to rub powdered alum into the gums twice daily, in order to harden them. Cases of serpiginous ulceration, necrosis, visceral and other gummatous lesions which had resisted other modes of treatment, when treated in the foregoing manner improved most rapidly. The patients were treated either in their own houses, nursing homes, or at the medical baths of University College Hospital. To the latter any practitioner may send his patient. There is a special class of case that does better at Aachen or some other quiet resort, where he is removed from the temptations of London life. This is not so much due to the action of the local waters or to superior rubbing, but rather to the circumstance that the patient is made to lead a regular life, to feed plainly, and to keep early hours.

Welbeck-street, W.

A CASE OF EMPYEMA.

BY A. P. WALTERS, L.R.C.P. LOND., M.R.C.S.

THE following case is recorded in the columns of THE LANCET chiefly to add another successful one to the list of those which may be included under the term of "cottage surgery," showing that with ordinary precautions and daily attention a favourable result may ensue.

On Nov. 17th, 1892, I was called to a cottage in the country to see a boy aged eleven. He was in a febrile condition, with a peculiar erratic erysipelatous eruption on the face, arms and trunk, being unequal in distribution. The right pleura was found to be inflamed, and upon physical examination fluid was suspected to be present. On the day following I withdrew serous fluid with a hypodermic syringe. On the 20th the right side was found flat on percussion and the breath sounds were inaudible. An aspirator fitted only with fine needles was employed, and the right pleural cavity was punctured in two or three spaces, but no fluid could be withdrawn on account of the bore of the needle becoming choked. The following day the right pleural cavity was aspirated and ten ounces of laudable pus were withdrawn. The patient developed a hacking cough, probably from puncture of the visceral pleura on the 20th. The temperature rose to 103°, and the pulse was 180 per minute. From the 23rd to the 25th the pulse and temperature were about the same as on the 21st, but with a slight increase of pulse-rate; respirations 37 per minute. The patient's general condition was nevertheless fairly satisfactory, except for a hectic condition and a hacking cough which prevented him from sleeping at night. On the 26th, the patient being slightly anæsthetised, the pleural cavity was opened in the sixth space, in the mid-axillary line, and two pints and a half of purulent non-odorous fluid were withdrawn. The wound was well washed with hot carbolic lotion and a drainage-tube five inches in length, with a bore of a quarter of an inch, was inserted into the cavity and the wound dressed with absorbent wool. On the 27th the wound, which discharged freely, was well washed with hot lotion, and a piece of wool soaked in carbolic lotion was always kept over the aperture as soon as the dressing was removed. (This was done at all subsequent dressings, for with each inspiration there was always suction of air through the drainage-tube for at least three weeks after the operation.) On Nov. 28th, 29th, 30th and Dec. 1st the wound was dressed, but the patient's general condition was unsatisfactory. The drainage-tube was withdrawn at each dressing and washed in carbolic lotion. The patient was still hectic, there was an abundant discharge from the wound, but, with the exception of an acrid odour owing to the retention of the discharge during the twenty-four hours, it was inodorous. From Nov. 27th to Dec. 1st there

were loud pleuritic râles over the left (sound) side at the bases of the lung and in the region of the pericardium, simulating pericarditis. These râles fortunately cleared up; the wool dressings being carried completely round the chest probably influencing the result.

Dec. 5th.—The patient is improving. The pleural cavity was washed out with a weak, warm carbolic lotion. The appetite is good and the pulse-rate reduced. The discharge is still abundant, but less than during the first week after the operation. The drainage-tube was shortened to three inches.

20th.—The discharge is much less, being little more than half an ounce. The cavity has been syringed out with weak, warm iodine solution for the last week or two. A drainage-tube ten inches in length and of smaller bore than the one that has been employed can be passed into the cavity; the direction is unknown. The drainage-tube was replaced by one two inches in length and of a smaller bore. The patient gets out of bed to be dressed and sits up to have his meals. The lower portion of the right thorax is firmly strapped. The breath sounds are very weak, but just audible all over the side except just around the wound. The percussion note is very dull and expansion of the right side is very slight.

21st.—The patient is not so well, but anorexia, vomiting and hectic are not so marked as a week ago. The discharge is very slight in amount, being scarcely a drachm. On syringing the side a portion of the solution of iodine was retained.

Jan. 5th, 1893.—The patient is fairly well and gets about the house. The discharge is very slight. The wound is dressed as a rule every day.

9th.—The patient for the last four days has not been so well. He has been dressed on alternate days. Anorexia, vomiting, irritable furred tongue, and hectic have been pronounced. The tongue has been very characteristic and remained in much the same condition for some time afterwards. Thinking the symptoms might be bilious, an aperient was given, although not retained, but the condition was found to be hectic and due to retention in the cavity of thick creamy pus, the fluid being prevented from draining by formation of adhesions situated nearer the opening in the chest wall. By passing into the cavity a drainage-tube seven inches in length some pus was brought away.

12th.—The discharge is increased in amount. The smaller drainage-tube was replaced with difficulty by the original quarter-inch bore drainage-tube, three inches in length. The cavity was washed out with iodine solution.

Feb. 9th.—For the last month a drainage-tube three inches in length and with a quarter-inch bore has been inserted into the wound. The discharge has been gradually lessening in amount and the cavity has been washed out with iodine solution and occasionally a long drainage-tube has been passed into the cavity for the purpose of probing. The cavity has been gradually contracting and the lung found to expand better, and the breath sounds could be heard fairly well over the apices back and front and over the whole back of the lung. For the last fortnight the patient has been out of doors in fine weather and has eaten well. On auscultation of the side just around the opening the breath sounds are inaudible. For the last week the drainage-tube has been gradually shortened as the adhesions tend to push it from the cavity, and at this date it is one inch in length. The discharge has almost ceased.

18th.—The drainage-tube has been removed and the discharge is practically *nil* just from the external opening. The patient is well and has no bad symptoms whatever. He has gained in weight.

New Swindon.

CASE OF COMPOUND DEPRESSED FRACTURE OF THE SKULL WITH LOSS OF BRAIN SUBSTANCE.

BY C. D'AUVERGNE COLLINGS, M.A., M.B. OXON., M.R.C.S.

THERE are several features in the following case, which may prove to be of general interest. The recovery mentally appears to have been complete, notwithstanding the loss of a considerable amount of brain substance from the frontal region. The actual amount lost was difficult to estimate, but it was probably about a tablespoonful. When the patient left the hospital he was bright and intelligent, and a month or two after his return home his friends said they had not been able to discover any change either in his disposition or intelligence. No attempt was made at the time of the operation to replace the bone removed by the trephine and the elevator; the bone was comminuted, the membranes were torn and the brain was lacerated, and the risk of encephalitis seemed to be too great to run. The scalp wound caused by the injury should have been pared before being stitched; it would probably then have healed by first intention and much time and trouble in the after-treatment would have been avoided. It however, appeared to be fairly clean cut and was treated as an ordinary scalp wound. The following are the notes of the case.

A boy aged eight was brought to the St. Peter Port Hospital, Guernsey, about 7 P.M. on Aug. 7th, 1892, having been kicked on the head by a horse about half an hour previously. During his drive to the hospital he had vomited a quantity of undigested food, but was said to have been conscious and to have complained of his head. When examined shortly after admission he was unconscious. There was paralysis of the left arm and some paralysis of the left cheek and probably also of the right; there was no paralysis of the legs. His bowels acted and he passed urine in bed, and again vomited part of an undigested meal, most of which remained lodged in the cheek and had to be removed. Over the right frontal eminence and extending back for two inches towards the parietal region was a fairly clean cut wound of the scalp, two inches long, through which a considerable amount of hæmorrhage was taking place, and about a teaspoonful of brain substance was in the wound (some more was reported to have come out previously to his admission). On inserting the finger a depressed fracture was found, an irregular piece of bone about two inches and a half by one inch being attached above and depressed to about a quarter of an inch below. The rent in the dura mater was at the lower inner angle. The bone was to some extent comminuted. The extremities were warm; the pulse was fair. The patient was reported to have had two convulsions whilst preparations were being made for an operation. As some movement took place on commencing the operation chloroform was administered by Mr. Robinson. The wound was cleansed and the upper end of it extended by an incision at right angles towards the temporal region and a triangular flap was turned down. The depressed bone was wedged under the edge of the sound portion of the skull and no impression could be made on it with the elevator. The periosteum was therefore removed over a small region at the upper end of the wound and a half-inch trephine applied at the junction of the sound skull and the attached end of the depressed portion. The circle of bone detached by the trephine was removed without difficulty, but the depressed portion could not be elevated until a further small piece projecting on the outer margin of the fracture had been removed with a Hey's saw, when two pieces of the comminuted bone were easily removed. The principal part of the fractured bone after elevation always resumed its depressed position on being released and was therefore removed. The wound was washed with carbolised lotion and afterwards with perchloride of mercury lotion, and six or eight silk sutures were inserted to keep the scalp flap in position. No stitches were put in the dura mater and no drainage tube was used. The wound was powdered with iodoform, covered with lint smeared with iodoform ointment, then with a thick layer of sublimate wool, and tied with a gauze capiline bandage. After the operation the patient was drowsy but semi-conscious. The paralysis was apparently much the same. On the following day he was quite conscious and could move the left arm and hand, but complained of pain in the head and vomited any liquid taken. The dressings were changed, as a good deal of sanious oozing had taken place, and he was given ice to suck. During the day he was unfortunately taken out of bed and stood up without assistance to pass urine. In the evening the temperature was 101° and the face was flushed. An ice-bag was applied to the head and kept on continuously for about a fortnight. The face remained flushed and the temperature was high for two days, but afterwards it gradually became normal. After the second day the patient asked for solid food and was allowed a little bread-and-milk. The bowels remained obstinately constipated for some time, failing to be relieved by an ounce of compound senna mixture or a tablespoonful of castor oil until a glycerine injection was given. The wound was dressed daily and some of the stitches were taken out on the sixth day, but the edges had only united in part

by first intention, and some brain substance came out of the lower part of the wound, which was beginning to suppurate and to bulge outwards. Strips of carbolised adhesive plaster were put across it for support.

Aug. 14th.—He dozes quietly most of the day, understanding all that is said to him, he does what he is told to do and asks for what he requires, and he answers Yes or No correctly to what is asked him; but if asked anything that requires some further thought he looks vacant and says nothing—e.g., if asked how he is feeling he does not answer, but if asked whether he has any pain he shakes his head and says No, and if asked whether he is comfortable he nods and says Yes.

17th.—The wound is suppurating rather freely and there is some bulging under the flaps where the bone was extracted. The patient is duller and more apathetic than he was. He passes his urine in bed unless periodically supplied with the utensil and told to use it. The temperature remains normal.

29th.—The general condition of the patient has improved since the last note. He does more what he is told to do and asks for the pan when required. He talks a little and the nurse says he is much brighter. The granulating surface has been very much raised and is only kept down by daily applying nitrate of silver, and, by keeping the edges of the wound strapped down, it is uniting by secondary adhesion. The edge of the frontal bone denuded of periosteum is exposed at one place at the bottom of the wound.

Sept. 14th.—The wound is healing well and the bone appears to be covered. The patient, who has been in a ward by himself, which has been darkened since the operation, has been removed to the women's ward and is allowed to get up for a short time.

Oct. 1st.—The wound is now healed, with scarcely any bulging. Pulsation is visible under the wound, but is not excessive. No pain is felt on pressure. The patient feels quite well and goes out daily and plays with the other children. When examined to-day he wrote his name well, did various simple addition and subtraction sums correctly, and went partly through the multiplication table.

He was discharged shortly afterwards with a celluloid shield as a protection over the gap in the skull, this being fastened by an indiarubber band round the head, and he has remained well ever since.

Grange-road, Guernsey.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL AND THERAPEUTICAL.

CASES OF CONTRACTED TENDONS.

BY W. J. TIVY, F.R.C.P., F.R.C.S. EDIN.

IN the following notes I am anxious to advocate in cases of acquired hammer-toes and such allied affections subcutaneous division of the contracted tendons and fascia, followed by immediate and daily extension and massage of the divided tendons. I have recently pursued this line of treatment with perfect success in two such cases, and in one of acquired talipes equinus with a much contracted tendo Achillis in each foot in a young girl of fourteen.

The most severe of the two cases of hammer-toes occurred in an officer in the army, whose toes were all so much contracted that, to use his own phrase, he was "quite crippled" and unable to follow his profession at all satisfactorily, owing to the existence of corns over the phalangeal joints and pain in the soles of his feet on exertion. The affection seemed to be somewhat congenital, but had been chiefly caused by wearing tight boots with pointed toes. Some two years ago, when on leave, the tendons in each foot were subcutaneously divided in London and his toes were immediately straightened and put up in plaster-of-Paris, which was allowed to remain unmoved for some four or five weeks. In spite of this, however, the deformity soon returned and his condition was as bad as ever. When I saw him first his toes were so bad that he had decided to go to London again and to have the fourth toe in each foot amputated, as these happened to be the worst and he had heard that amputation was the only cure. Having recently treated two somewhat similar cases, I persuaded him to defer the amputations and to allow me to do tenotomy again and to follow this up by immediate and daily extension and massage. Early last August, under chloroform, I divided subcutaneously the extensor tendons in all the toes of each foot above the metatarso-phalangeal articulations, and where the toes were not thus immediately and completely straightened I divided all constricting bands of fascia, these bands being very dense in the fourth toe on both sides. Having closed the wounds with lint and applied a bandage, I left the feet at rest for two days, when, finding the incisions healed, I at once fully extended the toes and massaged the tendons gently over the divided portions, holding the toes at full stretch whilst doing so. This treatment was done daily for a fortnight by me and afterwards by a nurse and by the patient himself. Between each extension he wore two small poro-plastic felt splints bandaged so as to keep the toes straight. After fourteen days he was able to walk a little, and in five weeks from the date of operation he walked fifteen miles with ease. At each daily extension for the first five or six days a distinct snapping of tendinous bands was heard and felt, showing the rapidity with which the cut tendons threw out fibres to bridge over the gap between the divided ends, and this, too, in spite of the fact that the parts were kept asunder from day to day by the firmly applied splints. After five or six days, however, this entirely ceased and only a stretching of new and comparatively elastic tissue could be felt. This seemed to indicate that the structure intervening between the cut ends of the tendons was now chiefly connective tissue with a large amount of cell element, and that the original tendinous fibres had ceased directly to unite. By this treatment the patient gained at least half an inch in length of new tendon in each toe, and now, eight months after the operation, all his toes are quite well; he still, however, stretches them and massages them daily.

I adopted precisely the same treatment, and with equal success, in a young lady aged seventeen for one acquired hammer-toe; and in a very severe case of double talipes equinus in a girl aged fourteen I divided the tendo Achillis on both sides, and by immediate and daily massage and extension when the incisions were healed I gained an inch and a half in length of new tendon on both sides, and the patient was thus enabled to walk quite well with ordinary boots, whereas previously to the operation she could walk with difficulty in boots raised at the heels at least two inches and a half. In this latter case I applied no apparatus of any kind, but merely gave her feet the support of a light bandage for four or five weeks.

Lansdown-place, Clifton.

A CASE OF GASTRO-INTESTINAL HÆMORRHAGE IN AN INFANT.

BY LOUIS E. STEVENSON, M.B., B.C. Cantab.

CASES of gastro-intestinal bleeding are comparatively rare in newly born children and therefore worth recording. In this case the child was seven days old. My partner, Dr. Watson, attended the mother in her confinement; labour was perfectly normal and of short duration. It was the second child and a male. The child was apparently quite healthy, except that he was noticed to breathe in a somewhat laboured manner; there was no cyanosis. At 1 P.M. of March 11th of this year the mother noticed the child becoming rather pale; shortly afterwards a small quantity of reddish blood was vomited, and at 4 P.M. a black tarry motion was passed. I was called in at 8 P.M. Shortly before this hour another tarry motion had been passed. I found the child pallid and almost collapsed. I prescribed a hæmostatic internally (tannic acid, two grains every two hours) and ice to the abdomen. The child gradually sank anddied a few hours later, at 2 A.M. on the 12th. No necropsy was allowed, which was unfortunate, although nothing very definite has been found in many of these cases and the cause of hæmorrhage is obscure. Occasionally ulcers of the stomach or of the duodenum have been found, but in the majority of cases the hæmorrhage has been capillary and nothing but a congested state of the vessels has been discovered.[1] Probably some degenerative condition of the walls of the bloodvessels is the pathological condition. There was no history of hæmophilia in any member of the family.

Temple Sowerby, Penrith.

[1] Eustace Smith: Disease in Children, pp. 606 and 607.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

SEAMEN'S HOSPITAL, GREENWICH.

SPASMODIC TORTICOLLIS; RECOVERY AFTER EXCISION OF PORTION OF SPINAL ACCESSORY NERVE.

(Under the care of Dr. JOHN ANDERSON and Mr. W. JOHNSON SMITH).

RATHER more than a year ago, in THE LANCET of March 26th, 1892, we published an annotation on operation for spasmodic torticollis. In this we referred to the variations met with in different cases as regards the muscles affected, the nerves which require to be found, and to other points to which attention required to be directed. Nerve stretching, even when thoroughly carried out, has not been attended with success, and simple division of the nerve has given no better results. Surgeons are now dealing with these cases by simple excision of the nerves supplying the affected muscles, removing the nerves as near the central ends as possible. In 1891 M. Petit recorded twenty-six cases of excision of a portion of the spinal accessory nerve; in thirteen a successful result was obtained, seven were much improved, two were slightly better, three were benefited temporarily and one died from erysipelas Later in the year we brought forward cases in THE LANCET of June 18th, under the care of Mr. Owen, Mr. Appleyard, Mr. Gould and Mr. Smith. In most of these operation had been followed by considerable success; some cases had apparently been cured; in others it was rather too early to give a decided opinion. In THE LANCET of June 25th, 1892, Mr. Southam's experience in ten cases was given; in four, which were still under observation, where intervals varying from eight to two years had elapsed, the relief from spasm had been permanent. In the case which is here given the relief so far has been very marked and the patient has improved immensely by operation, so much so that, even if the improvement were not fully maintained, the operation is more than justified.

The patient, who was a short, thick-set man, aged thirty-one, was admitted to the Seamen's Hospital on Sept. 7th, 1892. He had been at sea for the greater part of his life and had enjoyed good health up till five years ago, when he was attacked with malaria at Bombay. Since then he has had malarial attacks from time to time. Eight weeks before admission, after returning from a voyage and when stopping at Cardiff, he was seized with quotidian ague. A fortnight later spasmodic movements of the head and neck to either side suddenly developed and have persisted since with but little intermission. At the same time there was some pain in the back and sides of the neck. He had never suffered from anything of the kind before. There was no history of neurosis in his family, both his parents being alive and healthy.

On admission he was found to be suffering from spasmodic rotary movements of the head to either side, but more particularly towards the right. These movements were very constant and were increased on exertion; they ceased during sleep. There was some complaint of pain in the back of the neck. The hands were somewhat tremulous and the knee-jerks brisk and equal on the two sides. The movements soon took place only towards the right, from frequent clonic spasm of the left sterno-mastoid.

On Sept. 12th the condition was much as follows: The head was frequently drawn over to the right side, twenty or thirty times a minute, so that the chin touched the acromion. At the same time the head was somewhat retracted and the eyebrows were slightly raised; some spasm was present at the right angle of the mouth and the right shoulder was elevated. During the next month various kinds of sedatives were tried, including injections of morphia, without giving any relief. The patient became low and despondent and had great difficulty in taking food, as attempts at mastication increased the spasm. The left sterno-mastoid muscle had become very considerably hypertrophied. Owing to the malarial history quinine was also given, but without benefit.

On Oct. 5th chloroform was given and several old stumps were removed from the right upper jaw. This seemed to do some good for a short time, but the condition soon became as bad as ever. The actual cautery applied along the course of the left spinal accessory nerve and on the back of the neck was followed only by temporary relief.

On Jan. 20th, 1893, chloroform was administered, and Mr. Johnson Smith performed neurectomy of the spinal accessory. An incision about three inches long was made on the left side of the neck, commencing just below the mastoid process, and carried downwards along the anterior edge of the sterno-mastoid. The nerve was exposed above its entrance into the muscle and about half an inch of it was excised.

The wound healed rapidly; almost immediate relief followed the operation. There was at first some slight spasm of the neck towards the right, when the right hand was used, but this soon passed off. The patient had for many months been nearly entirely confined to bed, and at first, on getting up, there was very great weakness. He soon, however, regained his strength and on March 13th was able to leave the hospital. On discharge he was quite free from spasm of the neck muscles, except for slight movements at times when he used his right hand in washing himself. Mastication was carried on without difficulty and he was entirely free from pain.

GENERAL HOSPITAL, WOLVERHAMPTON.

NERVE INJURIES COMPLICATING FRACTURES OF THE UPPER EXTREMITY, WITH SIX CASES.

(Under the care of the Honorary Surgeons.)

(Concluded from p. 864.)

WE published the first three cases of this series in THE LANCET of last week. They were as follows:—1. Fracture of both bones of the forearm; paralysis of the posterior interosseous nerve. 2. Fracture of both bones of the forearm; paralysis of the median nerve. 3. Compound fracture of the right humerus; paralysis of median and ulnar nerves; exploratory operation. We now continue these interesting examples of the occasional nerve complications of fracture of the forearm or humerus by three short records of fractures of the humerus with paralysis of the musculo-spiral nerve.

CASE 4. *Fracture of left humerus; paralysis of musculo-spiral nerve; operation; no recovery after two years.*—A boy aged thirteen sustained a fracture of the left humerus in two places. After the fracture had united it was found that he had wrist-drop. The upper fracture having been in the neighbourhood of the musculo-spiral groove it was thought that the nerve might be involved in callus. It was accordingly exposed in this situation and was found lying between two ridges of new bone and adherent to the periosteum. It was freed from adhesions. The wound healed readily, but the patient was discharged unimproved. When first seen by Dr. Deanesley two years later there were complete paralysis and wasting of all the dorsal muscles of the forearm except the supinator longus, which acted feebly. There was complete loss of electric excitability, both faradaic and galvanic. The triceps was unaffected.

CASE 5. *Separation of lower epiphysis of left humerus; paralysis of musculo-spiral nerve.*—A boy aged eight years. The accident, which was caused by a fall on Feb. 18th, 1892, was recognised by the usual signs. After reduction the elbow was immobilised at a right angle by plaster-of-Paris. When this was removed at the end of four weeks there was much bony thickening about the lower end of the humerus and the elbow was very stiff. There was also complete paralysis of all the muscles supplied by the musculo-spiral below the elbow. These muscles gave no response to faradaism, but responded to a smaller minimal galvanic stimulation than the corresponding muscles of the opposite side. No loss of sensation could be detected. Friction, passive movement and the galvanic current were employed daily. Recovery of voluntary power began in the supinators on March 9th and was complete in all the affected muscles on May 2nd, although then and for long after there was no recovery of faradaic excitability. Redundant callus having been absorbed it was found that the displaced fragments had not been perfectly reduced, the lower end of the shaft being in front of and overlapping the lower fragment, forming a prominence

at the front of the elbow which stopped flexion at a right angle. Extension was also slightly limited. In other respects the limb was perfectly normal.

CASE 6. *Separation of lower epiphysis of right humerus; paralysis of musculo-spiral nerve.*—A boy aged eight years. The accident was caused by a fall off a gate on Sept. 6th, 1892. The displacement was reduced and the limb put up on an internal angular splint. On Sept. 10th he was found to have complete paralysis of the extensors of the wrist and fingers and of the supinator longus. No anæsthesia was detected. This case resembled Case 5 in almost every respect, both in the imperfect reduction of the fragments and in the result. The muscles, which had lost faradaic but preserved galvanic excitability, were treated daily with one or other form of electricity. Recovery began in the supinator on Oct. 27th and was complete in all muscles on Nov. 27th, patient having been under treatment nearly three months.

Remarks by Dr. DEANESLEY.—The diagnosis seldom presents any difficulty. I do not doubt, however, that cases of this kind are at times overlooked, nerve lesions not being thought of, paralysis and contracture of muscles being confused with the general weakness and stiffness which are so often left for a considerable time after the fracture has united. This applies more particularly to lesions of the median and ulnar nerves. Paralysis of the musculo-spiral nerve produces the characteristic and familiar wrist-drop, which is little likely to be overlooked. There are two signs which should always make the surgeon suspect damage to nerve trunks in cases of fracture of the upper limb. One is that the patient makes more than usual complaint of numbness of the fingers during the first two or three days; the other is an excessive amount of stiffness of the elbow, wrist and fingers found when the splints are removed. Disturbance of sensation is almost always transient, but is seldom absent during the first week. Sensation is blunted but seldom quite abolished, and feelings of numbness, tingling &c. often persist for a considerable time. In affections of the median nerve the patient complains mostly of the index and middle fingers, but less of the thumb. In affection of the musculo-spiral nerve the numbness is referred to the back of the hand and forearm, but in these cases complaint is less often made and the alteration of sensation is more transient. Contracture both of the paralysed and of the unopposed muscles sets in early—in the case of the median nerve from the fourth to the eighth week. In musculo-spiral palsy due to fracture of the humerus, contracture either of the paralysed or of the unopposed muscles does not occur. Median palsy is therefore that which, owing to contracture, is most likely to be confused with stiffness due to prolonged immobilisation. The position of the hand, however, in this case is very characteristic. When the nerve is implicated in the upper arm the patient is quite unable to supinate the hand beyond the mid-position, to which it is carried by the biceps and supinator longus, the wrist cannot be extended beyond the straight position, the metacarpal bone of the thumb is drawn back into the same plane as those of the fingers, and there is total inability to flex the last joints of the index and middle fingers. The proximal phalanx can still be flexed by the action of the interossei and lumbricales. At a later time the wrist becomes considerably adducted by the unopposed action of the flexor carpi ulnaris, and the metacarpal bone of the thumb becomes approximated to that of the index finger by the similar action of the abductor pollicis. The attitude of the hand, therefore, closely resembles that which may be produced by faradaising the normal ulnar nerve at the middle of the arm. In Case 2, in which the median nerve was compressed in the forearm, the most marked feature of the hand, in addition to those just described, was the strong flexion of the little and ring fingers due to the action of the unopposed half of the flexor profundus digitorum supplied by the ulnar nerve, and therefore unparalysed. It is worthy of note that in this case contracture of the unparalysed half of the muscle was both more severe and more permanent than in the paralysed muscles supplied by the median nerve. It is this liability of contracture (organic shortening) to affect both paralysed and unparalysed muscles which makes the determination of the exact cause of the attitude assumed by the limb in lesions of peripheral nerve trunks so difficult to determine. If any doubt as to the existence of nerve lesion remain after the examination of the voluntary power, sensation and attitude of the limb, it can generally be set at rest by testing the electric excitability of the muscles and nerves to the faradaic and galvanic currents. In doing this one or two facts should be borne in mind. In the first place, when the limb has only recently been taken out of splints or plaster, the skin is usually so dry and non-conductive that the reactions cannot be accurately tested until the limb has been thoroughly washed and rubbed for several days in succession; and secondly, mere disuse of a limb from immobilisation produces such a diminution of faradaic excitability of all the muscles that often for several days no reaction can be obtained from a strong current. Hence diminution or loss of reaction cannot be relied upon as a proof of nerve lesion unless it is confined to a group of muscles supplied by a particular nerve. If loss of faradaic reaction is found some alteration, quantitative or qualitative, or both, will be found in the reaction to galvanism. In all the cases which have come under my notice except one faradaic excitability has been lost; galvanic reaction, on the other hand, was retained, and in some cases increased, together with the usual qualitative reaction. In only one was there total loss of electric excitability (Case 4). The prognosis is a point of considerable importance. It is, on the whole, extremely favourable. Only one of the six cases here recorded failed to recover (Case 4). If galvanic irritability is not lost at the end of a month from the time of injury a favourable result may always be expected under proper treatment. The time varied in these cases from three to twelve months. It was more rapid in children than in adults. The treatment consists in passive movement, friction, and electrical stimulation of the affected muscles and nerves. As a rule, no attempt should be made to deal with the nerve injury until the fracture is soundly united—i.e., until from four to eight weeks after the injury. Adhesions and contracture should then be dealt with, an anæsthetic being used if necessary. The whole limb should then be treated with systematic rubbing and with electricity. Whether for this purpose the constant or the interrupted current should be used is a subject of dispute. It is generally recommended to use the constant current, to which the muscles still respond. It is certain, however, that the beneficial effects of electricity do not entirely depend on its producing a muscular contraction. The efficiency of faradaism, even after the muscles have ceased to respond to it, is indisputable. Duchenne, to whom we owe the use of electricity in muscular paralyses, produced his remarkable cures entirely with a faradaic current. One of my own cases also was successfully treated by faradaism alone. The use of the latter has several advantages over the galvanic current. The battery is of simpler construction, is less liable to get out of order, and requires much less care and skill in its application. This allows the application to be entrusted to a nurse or patient's friend, a point of some practical importance when it has to be continued for some months. Finally, the nerve may often be faradaised above the seat of lesion and the muscles may in this way be got to respond long before volitional impulses are able to pass. If desired the faradaic current may be applied daily by a nurse or friend, and the galvanic once or twice a week by the surgeon himself. The question of operation will naturally arise in many of these cases. No operation should be advised unless there is reason to believe that there still exists some pressure or traction on the nerve which can be relieved. I believe that the number of cases in which such a condition exists is small. Of the three cases given above in which an exploratory operation was done no sign of still-existing pressure was discovered in any; in one, it is true that the nerve lay in a groove of callus, but there was no evidence that it was compressed by it. If, however, there is any condition such as marked displacement of bony fragments, or any other cause which seems remediable by operation, no hesitation need be had in undertaking it and in at least ascertaining the actual state of the nerve. For permission to publish these six cases I have to thank the honorary surgeons of the Wolverhampton General Hospital.

FOOTBALL CASUALTIES.—On the 25th ult., in a match at Hornsey between the Ferne Park Rovers and the Chapel Club, a player aged eighteen years sustained injuries which resulted in meningitis. He died on the 12th inst.—Also on the 25th ult., in a game at Atherstone, a player aged twenty-four years received injuries to the left knee necessitating amputation of the leg. He died at the Tamworth Cottage Hospital on the 14th inst.—On the 8th inst., during a match at Guildford between the Weybridge and Vampires Clubs, a player collided with another, sustaining "serious injuries to the head and ear."

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Removal of Clavicle.—Pyrexia in Acute Anæmia.—Hæmorrhage from Groin in Sloughing Bubo.

AN ordinary meeting of this Society was held on April 17th, Dr. BRISTOWE, President, in the chair.

Mr. HASLAM (Birmingham) showed a man aged thirty-one, whose Clavicle he had completely excised five months ago for Sarcoma. The patient had noticed about nine weeks before his admission to the hospital that lifting weights at his work caused pain in his right clavicle; this pain continued for about a month, and then, for the first time, he felt a lump about the size of a walnut towards the sternal end of the bone; this gradually increased in size and the pain diminished. On admission a tumour was found on the right clavicle, oval in shape, and situated just externally to the sternal end of the bone, measuring four and a half inches horizontally and two and a half inches vertically. The surface was smooth and firm, though its consistence varied somewhat in places, and here and there distinct crepitation could be elicited on pressure. As far as could be ascertained the growth was principally on the anterior aspect of the bone, though it extended upwards and downwards. The skin was freely movable over it, and there was no evidence of any pressure on the subjacent venous trunks. There was no history of syphilis. Removal was effected by means of an incision along the whole length of the bone and a short vertical one carried upwards over the most prominent part of the growth. The attachments of the deltoid and trapezius were next cut through, the acromio-clavicular joint was opened, and the conoid and trapezoid ligaments were divided; this allowed the outer end of the bone to be raised, so that the subclavius could be dissected off. After division of the sterno-mastoid and pectoralis major, the sterno-clavicular articulation was cut through, the rhomboid ligament divided, and the bone removed. No hæmorrhage of any importance was encountered until a small portion of the growth adherent to the deep cervical fascia was being dissected off, when a medium-sized vein was cut just as it was perforating the fascia. A drainage-tube was inserted and the wound dressed with blue gauze. Healing was somewhat prolonged, owing to suppuration taking place, but by providing a free exit for pus no harm resulted and the temperature only once reached 100·6°. At the present time the cicatrix was sound and there was singularly little deformity resulting from the operation, the point of the shoulder being nearly as high as the other and not appreciably nearer the middle line. The movements of the arm, though not yet as free as normal, were considerable. On examination of the tumour the amount of growth was found to be small in proportion to the new bone formation, and its origin was doubtless in the periosteum, on the upper and anterior surface of the bone. Dr. C. F. Marshall reported that the superficial portion consisted of a small round-celled sarcoma infiltrating the fibrous layers of the periosteum. In the deeper portions there were trabeculæ of cartilage showing stages in the formation of bone. This, however, tended to break down rather than form perfectly developed bone.—The PRESIDENT remarked on the powers of movement which the upper extremity still possessed in spite of the absence of the clavicle.—Mr. JESSETT showed a specimen of sarcoma of the clavicle which he removed from a girl aged sixteen four years ago and the details of which he published in THE LANCET of June 1st and 8th, 1889. Several small recurrent growths had since been removed and the patient was at present quite well and able to use the limb very freely.—Mr. LOCKWOOD observed that the sternal end of the clavicle was much more frequently affected with sarcoma than the acromial extremity, and he thought that in the case under discussion the growth had probably originated in connexion with the epiphysial cartilage.—Mr. HASLAM briefly replied.

Dr. HANDFIELD JONES then read a communication on Pyrexia in Acute Anæmia. After referring to the Lettsomian Lectures, delivered by Dr. Stephen Mackenzie, and to the work by Dr. Coupland on the subject, he said that he would confine himself to cases of anæmia due to sudden and severe losses of blood, excluding as far as possible those cases in which the causes of bleeding might of themselves induce symptoms of inflammation or other morbid changes sufficient to account for a rise of temperature. The first case was one in which after the birth of a second child, the labour being rapid and easy, the third stage was attended by flooding; though the lochia were healthy, the breasts normal and the bowels regular, for ten days after delivery there was marked pyrexia; the patient ultimately made a good convalescence. In the second case labour was easy and the membranes came away entire, but there were two attacks of severe hæmorrhage afterwards; the lochia were normal, but the temperature ran up as high as 105° F., and did not reach the normal till ten days later. The third case was that of a patient who was blanched by repeated hæmorrhages after a normal confinement; the lochia remained free from odour, but the temperature for a week remained between 100° and 102·4° F., the pulse afterwards gradually falling to the normal. In the fourth case there was antepartum hæmorrhage and the child was born dead; five days after labour, when he saw the patient she was pale from loss of blood and the temperature was persistently high; the lochia were scanty, but odourless; it was the twelfth day after delivery before the pulse and temperature reached the normal. Dr. John Phillips had supplied him with notes of similar cases, and he had records of others in which hæmorrhage was associated with pyrexia independently of pregnancy. He quoted an instance in association with fibroid tumour of the uterus and others where curetting had been done for villous endometritis. If the pyrexia were the result of hæmorrhage it ought to have frequent mention in surgical records, though probably the fever was frequently put down to inflammation of the damaged tissues. After the bleeding there was usually a short period of subnormal temperature followed by a rise in some cases as quickly as twelve hours; it was more marked in women with marked nervous temperament. The average duration of the pyrexia was seven days, the shortest was three and the longest thirteen. It was probably to be explained by a disturbance of the heat-regulating centre, a condition of hyperæsthesia being induced; but he did not put forward his conclusions as final.—The PRESIDENT could confirm the observation that a rise of temperature frequently occurred after hæmorrhage; he had observed it after profuse bleeding from gastric ulcer.

Mr. MARMADUKE SHEILD gave a further communication on Hæmorrhage from the Groin in Sloughing Bubo. This was a second communication to the Society on the same subject, the first, a case where the femoral artery and vein were tied for this affection, being recorded in vol. x. of the Transactions. In the present case the patient, twenty-six years of age, came under treatment on Aug. 17th, 1892, with a large painful suppurating bubo in the left groin, the result of ulceration about the femur. The patient was not strumous or syphilitic. The parts were freely laid open and some loose slough was cleared away. A quantity of disintegrating blood-clot was found in the discharge and the coats of the femoral artery were exposed at one spot. The cavity was carefully dressed from the bottom with iodoform and a firm "spica" bandage applied. On the evening of the third day a smart arterial bleeding took place, "enough to soak through the pads and voluminous dressings and to form clots in the bed." The dressings were at once removed and the clot sponged away. No recurrence of bleeding took place and the wound was again dressed with iodoform and packed with sponge graduated compresses. The main artery was beating quickly in the wound, but no certain opinion could be formed as to the source of the bleeding. Special nursing was employed and a strict watch kept upon the case. About half-past twelve at night on the evening of the sixth day a second hæmorrhage took place. This was more serious in volume and force and continued despite pressure kept up by the attendant nurses, the patient being blanched by the loss of blood and terror. All dressings and apparatus being removed and the clots sponged away, a jet of arterial blood about the size of a crow-quill issued with great force from the depths of the wound. Attempts were made to secure the vessel, but without avail, on account of the friability of the tissues, and so after consultation it was decided to resort again to steady pressure by graduated compresses. The limb was bandaged from the foot upwards and, the sponge compresses being carefully packed into the wound, they were covered with a thick layer of wool and a spica very firmly applied. The patient, who was kept under opium for some days, ultimately made a good recovery. Mr. Sheild remarked on the extreme rarity of these cases and concluded his paper with some observations on their appropriate treatment.—Mr. LOCKWOOD remarked that there were two conditions

requiring treatment—the bleeding from the ulcerated point in the artery and the condition which produced the ulceration. As the artery was injured by an active process of ulceration it was impolitic to ligature the bleeding vessel, and the only alternative was to freely expose the bleeding point and apply pressure. For sloughing ulceration the treatment by continuous immersion in hot water was very good, especially when coupled with the after-application of strong solutions of tartrate of iron, which was a better application than iodoform.—Mr. COTTRELL could confirm the value of the warm bath treatment for phagedena.—Mr. SHEILD, in reply, said that in the case related in his first paper the hæmorrhage occurred before the bubo was opened. He agreed as to the value of the warm bath treatment; and he mentioned a similar case which had occurred in a large provincial hospital in which amputation at the hip-joint was ultimately performed, but the patient did not recover.

CLINICAL SOCIETY OF LONDON.

Gastro-enterostomy.—Hereditary Enlargement of Spleen.—Abdominal Section for Subcutaneous Rupture of Spleen.

AN ordinary meeting of this Society was held on April 14th, Dr. DUFFIN, Vice-President, in the chair.

Mr. HERBERT ALLINGHAM read a paper on a case of Gastro-enterostomy. The patient, aged thirty-four, had for some time suffered from supposed indigestion and vomited the contents of her stomach a few hours after food. When admitted to hospital she was very thin and always vomited after food, and a hard mass could be distinctly felt about the epigastric region. Gastro-enterostomy was performed, Senn's plates being used. The mass about the pylorus was malignant and involved too much of the wall of the stomach to allow of removal. The patient was greatly relieved by the operation and gained in weight. She died, however, about five months afterwards from a secondary deposit in the lungs. No necropsy could be obtained.—Mr. BATTLE said that the relief afforded by this procedure was a great gain to the patient and a surgeon was justified on this ground in recommending the operation, although the definite prolongation of life could not be indicated. In a case in which he had adopted this method the patient lived for four months afterwards and at first gained health and strength, being throughout relieved of the distressing vomiting and able to take food from the day following operation.—Mr. PEARCE GOULD inquired how the upper part of the jejunum was found and whether the latter before suture was turned round so that the waves of peristalsis in both stomach and jejunum corresponded in direction. A French surgeon at the Paris Congress last year strongly recommended that the jejunum should be attached to the posterior gastric wall because in dorsal decubitus fluid from the stomach would not flow into the intestine if the fistula were anterior.—Mr. MANSELL MOULLIN said he had recently performed this operation on a young man for a lesion of doubtful nature in the first part of the duodenum. He attached the jejunum to the pyloric end of the stomach anteriorly, and once in every twenty-four hours the patient suffered from a considerable flow of bile into the stomach, which was unaffected by change of posture. The gastric walls were much thinned and atonied, and hence when both stomach and jejunum contracted the latter was probably the more powerful and drove its contents into the stomach. He discussed the question of the best method of dealing with the excluded portion of intestine and whether it was wise to make a second anastomosis between this and the gut lower down. The part of the stomach to which the jejunum should be attached was also one meriting further discussion.—Mr. BARKER said he had performed this operation three times with two successes. There was marked regurgitation for a day or two in the first case, which ceased when the patient was raised in bed to the half-sitting position. She was a woman aged thirty-six and she lived for a little more than a year after the operation. Senn's plates were not used, but an original method of suture was adopted. In the second case, one of pyloric cancer in a man, Senn's plates were used and no ill-effects followed keeping the patient on his back. He recovered from the operation, but he died later of pneumonia. In the third case, in a female, he adopted the method of simple suture without Senn's plates; the patient died from the shock of the operation. Regurgitation, he thought, was almost a matter of accident, encouraged by the dorsal position. He thought that Senn's plates were not an unmitigated good. It was necessary to secure the bowel to the stomach wall for at least two inches of its length on each side of the opening. The duration of life was not so much affected by the operation; it depended more upon the rate of progress of the malignant disease.—Mr. ALLINGHAM, in reply, said that it was very easy to find the jejunum by turning the omentum to the right and then picking up the portion of intestine presenting and tracing it upwards. He made the opening in the gut about twelve inches from the duodenum, and he turned it round before suture in order to secure peristalsis in the same direction as in the stomach. He fixed it to the anterior gastric wall because that was the easier method. The regurgitation in his case was apparently from the stomach only. The operation was completed in just under an hour, and, in addition to the four ligatures in the Senn's plates, he placed a few sutures in front and behind.

Dr. CLAUDE WILSON related the sequel to some cases showing Hereditary Enlargement of the Spleen. The communication was a continuation of a previous paper read before the Society in 1890, and in addition to bringing the histories of the cases up to date a full pathological report on the abdominal viscera of one of the patients who had died in the interim was appended. The view that the cases were possibly of malarial origin was finally abandoned, and it was stated that, whilst as regarded the hereditary element the cases were unique, they resembled in many important particulars some of those cases which had from time to time been described under such names as "splenic anæmia," "primitive splenomegaly," and sundry other somewhat anomalous titles. All the cases admitted to this series had occurred in adults, had run a more or less protracted course, and had presented the following clinical characters—viz.: (1) Enlargement of the spleen without any corresponding enlargement of the glands, and (2) marked globular anæmia without leucocytosis. In some of the cases there had been fits of epistaxis and in others febrile attacks, accompanied apparently by active destruction of the red blood corpuscles. It was suggested that, for temporary purposes at least, the series might be usefully regarded as a single group and that the name "chronic splenic cachexia" appeared the most suitable under which to describe cases possessing these characteristics.—Dr. HADDEN believed that the disease described by Dr. Wilson was a distinct affection and said that it would be well to examine the relatives of children who without evidence of syphilis, rickets or leucocythæmia yet presented enlargement of the spleen.—Dr. BARLOW said he had seen some of the cases and could confirm the accuracy of the clinical statements regarding them. The splenic anæmia of children had more resemblance to than differences from this affection, though in them he had not noticed a hereditary tendency. In the cases forming the subject of the paper there were certain common distinctive features—viz., great cachexia, a certain amount of anæmia, enlargement of the spleen, febrile attacks accompanied sometimes by enlargement of the liver and jaundice, the occurrence of paroxysmal attacks and the absence of leukæmia.—Dr. WILSON, in reply, said he found it difficult to connect the enlargement of the spleen in adults and infants with the cases he had related and which he thought must be placed in a separate category.

Mr. BATTLE read a paper on a case of Abdominal Section for Subcutaneous Rupture of the Spleen. The patient, aged forty, was admitted into St. Thomas's Hospital on July 15th, 1892, suffering from injury to the left side and a fracture of the left radius. He had fallen through a skylight about fifteen feet, but walked to the hospital, a distance of about half a mile, without assistance. He was suffering moderately from shock, with shallow respiration and weak pulse. He complained of pain in the left lower ribs, and the tenth rib was found to be broken; the temperature was 97·6°. There appeared to be some diminution of cardiac dulness, with absence of hepatic dulness. Next morning he vomited once at eleven o'clock, his lips and face were very pale, and respiration was almost entirely thoracic. There was dulness on percussion in both flanks, with resonance over the liver, and the temperature was 96°. At 2 P.M., when first seen by Mr. Battle, the diagnosis of rupture of the spleen was agreed to, and he was evidently suffering from internal hæmorrhage and had a pulse of 120. An hour later the evidences of fluid in the peritoneum were more marked, the pulse becoming weaker and faster (128), and four pints of a saline solution were given. This brought down the pulse rate to 95 and greatly improved the appearance

and colour of the patient. Abdominal section in the median line above the umbilicus was performed twenty-six hours after the accident, when the condition was still better, much blood and blood clots (seventy-five ounces measured) being removed from the abdomen. A deep laceration of the spleen on its outer surface, extending to its anterior border, was found, but owing to adhesions this could not be moved. An attempt was made to pass a ligature round the vessels, but this was not possible from the median wound. Another incision was rapidly made by the operator in the left semi-lunar line, his left hand being engaged in compressing the splenic vessels, and with much difficulty a stout silk ligature was passed and tied. The difficulty was caused by the fact that the point of the aneurysm needle had to be forced through dense tissue in order to encircle the vessels felt. This arrested the hæmorrhage, so it was cut short and the ends were allowed to fall back with the tissues ligatured. The abdomen was irrigated, the central incision closed, and the one in the semilunar line partly closed, a glass drainage-tube being passed down to the damaged spleen. After the operation the patient's condition indicated another saline infusion and five pints were injected into the left internal saphenous vein at the ankle with great benefit. In the evening there was a flow of bright blood from the drainage-tube and the dressings required to be changed. On the following day (the 17th) he was wonderfully well and expressed himself as being "all right." The temperature was 101·4° at 4 A.M., but 99° at 9 A.M. Later in the day he vomited after a small quantity of milk had been given. On the 18th vomiting continued at intervals and pain in the abdomen with increasing distension followed, and although the temperature was normal at midnight the general and local signs of peritonitis increased and he died late in the evening of the sixth day after the injury from exhaustion. A limited examination of the wound was alone permitted. It revealed an extensive rupture of the spleen with localised peritonitis. There was no blood found in the peritoneum. The ligature had not included all the vessels of the spleen, one large branch running away from the others being untouched. The spleen itself was firmly bound down. Mr. Battle then dealt with the question as to what symptoms might be looked upon as indicating a subcutaneous rupture of the spleen in a case of abdominal injury; he compared a rupture of the malarial spleen to the bursting of an aneurysmal sac, that of the healthy spleen to a wound of an artery of some size, in both the great danger being from the excessive bleeding either primary or secondary, and concluded by indicating the appropriate treatment, emphasising the utility of saline infusion, not only in replacing lost blood, but in bringing the patient into a condition which would allow the surgeon to perform an operation. When the rent in the spleen was of limited extent and the amount of blood in the peritoneal cavity not excessive, laparotomy had been followed by much benefit to the patient, even when the spleen itself had not been touched by the hand of the operator, pain having been relieved and the hæmorrhage appearing to have ceased; but if there was evidently a rent in the spleen and bleeding was still going on, then, to prevent further hæmorrhage, either primary or secondary, the organ should be excised.

PATHOLOGICAL SOCIETY OF LONDON.

Lamellar Fibroma.—Primary Carcinoma of Pleura.—Madura Disease.

A MEETING of this Society was held on Tuesday, April 18th Sir GEORGE M. HUMPHRY, F.R.S., President, in the chair.

Mr. S. G. SHATTOCK read a paper on Lamellar Fibroma and showed a spherical tumour of this kind two and a half inches in diameter. It lay in front of, and loosely connected with, the rectum, and was structurally composed of very dense fibrous tissue in which a fine concentric striation could be discerned with the naked eye. Histologically it consisted of fibrous lamellæ, between which were sparsely scattered much-flattened connective-tissue corpuscles. As to the etiology of the growth this appeared to be largely of a mechanical nature. In its centre was a small eroded piece of iron or steel, which had presumably at some time escaped through the intestinal wall, and around this the concentric envelopes of fibrous tissue had formed. But Mr. Shattock thought that another mechanical factor was at work—viz., movement; for the presence of such a foreign body was not itself sufficient to account for more than a simple encapsulation.—Mr. BARKER asked if Mr. Shattock had observed the lamellar distribution around the crescentic bodies or finger-like processes which were demonstrated in the specimens of mycetoma exhibited to the Society that evening and drew attention to the similar appearance Mr. Shattock had described in his paper. This formation Mr. Shattock had suggested was due to "unrest." He (Mr. Barker) thought that it was worthy of consideration whether mycetoma might not have the same etiology.—Mr. SHATTOCK, in reply, stated that the lamellar distribution round fibroid bodies was not uncommon; the walls thus formed were not very thick and therefore presented a somewhat similar appearance to a fungus.

Dr. R. G. HEBB read a paper on Primary Carcinoma of the Pleura and related the case of a woman, aged forty-six, who was admitted into the Westminster Hospital, under Dr. Donkin, on Dec. 13th, 1892. On examination there was complete dulness with absence of movement and respiratory sounds over the right thorax, without contraction. Twenty-nine ounces of brownish-red fluid were drawn off, in which one large epithelioid cell showing a "cancer body" was observed. The physical signs, however, remained unaltered and the patient gradually sank and died on Jan. 30th, 1893. At the post-mortem examination the right pleura was much thickened and some brownish-red turbid fluid with a soft clot was found in the sac. The lung contained an irregular white deposit about the size of an almond, which was in connexion with the visceral pleura in front. The parietal pleura was everywhere greatly thickened. In some places it was an inch thick. On section it was white, very tough, and resembled dense fibrous tissue. The right half of the diaphragm was infiltrated by the growth. There was some infiltration also of the capsule and upper surface of the right lobe of the liver. There were numerous secondary deposits over the peritoneum and left pleura. Of the lymphatic glands a few of the mediastinal were infiltrated. On microscopical examination the pleura showed that it was composed of fibrous tissue interrupted by channels of epithelioid cells. The grounds upon which Dr. Hebb considered this case to be one of primary cancer of the pleura were that the pleura was the part principally affected and that the secondary growths were extremely small and limited to the peritoneum, left pleura and a few mediastinal glands.—Mr. SPENCER thought it was a questionable point whether these were cases of carcinoma or sarcoma.—Mr. SHATTOCK remarked that it had often been asked: "Could primary carcinoma of serous membranes exist?" He had hesitated to answer this question, but was obliged to admit that he had seen a case of primary carcinoma of the omentum.

Dr. BOYCE and Dr. SURVEYOR (who was introduced by Dr. BOYCE) contributed a paper on Madura Disease (Mycetoma Carteri). They stated that mycetoma was a very chronic, locally spreading inflammation of the foot and much less commonly of the hand. As the specimens exhibited showed, it was characterised by much tissue destruction as well as by hyperplasia, but especially by numerous light-brown fish-roe-like particles, never yellow and less commonly black. Its scientific history dated from Dr. Vandyke Carter's researches. The disease usually occurred in people who went barefooted and worked in fields. In most cases it had been traced to some injury. It usually stopped at the ankle for a short time, then spread up to the knee and eventually might even reach the thigh. In one case there had been a recurrence of the black variety in the wound, and one of the authors expected shortly to receive a specimen of the white variety in which the disease recurred in the scar after a period of about two years. These cases, however, were rare, and amputation generally afforded complete relief. But generalisation had not been recorded. There was considerably more hyperplasia in the white variety. On the other hand, in the black variety the external appearance of the part might give but little indication of the widespread internal destruction and the enormous accumulation of the black masses. The latter were often encapsuled by dense tissue, whilst the white particles were equally often surrounded by young granulation tissue. The appearance of the black variety suggested, in many cases, the enclosure in the tissues of foreign bodies which had long ceased to produce irritation. With the elucidation of this variety they had been chiefly concerned and they should more especially confine themselves to the demonstration of its structure. The particles varied greatly in size—from that of a grain of gunpowder to a marble. Sections of the particles, free or *in situ* in the tissues, showed that they

were composed of tufts of a deep brown colour, and apart from a faint radiation or the presence of a slight venation, they gave very little indication of a vegetable structure. In these particles some observers (Carter, Bristowe and Bassini) obtained evidence of a septate fungus. Drs. Boyce and Surveyor found that, if the particles were boiled for from a few minutes to one hour in concentrated caustic potash, brown colouring matter was very slightly removed, but that this was completely destroyed upon transferring them to distilled water. The fungus could in this way be readily studied, but the animal tissues were destroyed. If, however, the tissue containing the particles were embedded in celloidin, washed for about one minute in eau de Javelle and then stained the colouring matter was removed from the fungus and the latter's relationship to the tissues around could be readily seen. Specimens under the microscope and the projections illustrated this. The fungus appeared to be the same in the specimens of the black variety. The hyphæ, which were usually very large, radiate and branching, resembled, as Bassini had already suggested, the higher fungi. The segments might be spherical and a pseudo-parenchyma might be formed or the hyphæ might form a palisade at the periphery. They had never seen organs of fructification. The tufts might be surrounded by necrosed granulation tissue; large giant cells and phagocytes were, however, characteristic. The sections showed that the hyphæ might penetrate vessels and run in their interior. The metamorphosis of the fungus which led to the formation of the apparently structureless black masses probably set in early and rendered the fungus inert. In the large particles there was a slight amount of iron present, as shown by the Prussian blue and other tests; it appeared to be wholly derived from the surrounding tissues. The particles turned red with dilute nitric and hydrochloric acids; little impression was made upon them by boiling in various fat solvents. There was a great contrast between the white and black varieties. In a very large number of cases the evidence of the presence of a fungus in the so-called fish-roe-like bodies was very little, the particles being little more than caseous and calcareous lumps. Sections of the particles were for the most part characteristic; in the centre there were usually numerous, small, reniform, deeply staining masses, surrounded by a deep radiate zone. In the central bodies a very fine reticulum might occasionally be made out; most usually stronger evidence of the fungus was obtained by the presence of dwarfed, club-like hyphæ, which formed an irregular fringe to the reniform bodies. In appearance, therefore, the white particles resembled actinomyces. They were surrounded by leucocytes and were either embedded in granulation tissue or lay free in abscess cavities or sinuses. (The paper was illustrated by some excellent micro-photographs.)

Dr. R. T. HEWLETT showed specimens and microscopical preparations from three cases of Madura Foot. The first case was a typical specimen of the white variety of the disease. Microscopically the so-called crescentic bodies were very distinct and showed a well-marked radial zone surrrounding them. Within the crescentic bodies a mycelial network was demonstrable by Gram's method. Peculiar nail-shaped granules of black pigment were also present. The second specimen showed much the same appearances. In the radial zone, however, well-marked typical clubs could be seen by staining with the Ehrlich-Biondi reagent, thus confirming the view that the radial zone was composed of degenerate clubs and that the disease was of an actinomycotic nature. The third specimen was an anomalous one. It seemed to be a typical example of Madura disease, but as neither roe-like bodies nor black particles were present it was difficult to say to which variety it belonged. Microscopically the crescentic bodies with their encircling radial zone, so marked a feature in the other two cases, were absent. In their place were irregular masses, termed, for convenience, the "fungoid bodies," set in a matrix of round cells. These fungoid bodies in section presented a reticulated or honeycomb structure. In the matrix of round cells were other large, delicate, pigmented cells. Bearing in mind the recent observations of Drs. Boyce and Surveyor, who considered that the black variety of mycetoma was due to an organism belonging probably to the higher fungi and that the black particles were the sclerotium of this fungus, Dr. Hewlett believed that this specimen was possibly an early stage of the black variety and that the fungoid bodies were the sclerotium of the fungus. He, in conclusion, drew attention to the value of the Ehrlich-Biondi stain for actinomycosis and to the beautiful results obtained with it.

Professor CROOKSHANK wished to refer to the work of Dr. Vandyke Carter and pointed out that he was the first to suggest the identity of the fungus of Madura foot with that of actinomycosis. He (Professor Crookshank) thought that Dr. Hewlett's specimens pointed to one variety of the parasite described in connexion with mycetoma as being the same as was met with in the disease with which one was so familiar in cattle. It had to be remembered that this was a highly pleomorphic organism, and it was difficult to ascertain its exact nature. Sometimes only mycelial structures were present, in other cases degenerate clubs could be detected and no mycelium. He thought it was possible that in the black and white varieties that had been described the same disease was dealt with; that in the black variety there was a double infection, the second being associated with the deposit of pigment, and that one must go further before deciding definitely that there were two absolutely distinct diseases.—Dr. RUFFER also referred to the remarkable pleomorphism of actinomycosis. He had made numerous experimental observations on animals to confirm this. Starting from the same culture he had inoculated cats and guinea-pigs and compared the results with similar inoculations in a cow; no bacteriologist would imagine that the three were instances of the same disease. In the cat he found an extremely delicate tuft of mycelia, with a certain proportion of slender clubs, which, however, differed very much from the clubs obtained from the cow. In cattle he had never had any difficulty in staining the clubs by Gram's method. In the guinea-pig, again, the clubs were seen with difficulty and the mycelium was thick and arranged in large tufts. He had never been able to get the clubs in artificial cultures. Böström had found the same. He (Dr. Ruffer) then tried to obtain the clubs in animals artificially by a method he had elsewhere employed—namely, by keeping the cells of the body away from the organism. In this way he had kept actinomyces growing for a fortnight, not allowing the large cells to get near the fungus; no clubs then appeared. He was convinced that the clubs were nothing more than the reaction of the actinomyces against the giant cells which attacked the mycelium. A similar process was observed between the tubercle bacillus and giant cell as described by Metchnikoff. His researches would shortly be published in the *Annales de l'Institut Pasteur*.—Dr. BOYCE, in reply, stated that he and Dr. Surveyor had observed a reticular formation at the mouths of the sinuses. They had passed over this because it appeared to be nothing more than the pentastomum. They also found in the growing portions of the tissues minute structures marked throughout with the faintest possible radiation at the periphery. They were unable to admit that there was any connexion between the black and white varieties of Madura foot, though in some cases there were certain points of resemblance.—Dr. SURVEYOR pointed out that it must be borne in mind that Dr. Carter's conclusions were based upon the examination of two specimens only of the white variety.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

Treatment of Spinal Abscess.—Primary Cancer of the Kidney.—Two Obscure Renal Cases.

Mr. F. SWINFORD EDWARDS, F.R.C.S., occupied the chair at the meeting of this Society held on the 7th inst., when Dr. MORGAN DOCKRELL showed a patient suffering from a Peculiar Pigmentation of the Face, Hands, Arms and Penis; and Dr. CAMPBELL POPE exhibited (1) a One Month Ovum; (2) Twin Two Months' Ova. The following papers were then read.—Mr. KEETLEY read a paper on the Treatment of Spinal Abscess and described the method he adopted—viz., free incision, erosion of pyogenic membrane, and, finally, a hot sublimate douche (1 in 3000) followed by injection of etherial solution of iodoform. With or without drainage the patient should be fitted with a plaster-of-Paris jacket, made before the operation, and allowed to leave his bed in a fortnight. This practice had been pursued at the West London Hospital for twelve years, except in a very few special cases, and always with impunity. Methods of obtaining access to diseased vertebræ were then described, including one by trephining through the pedicle in the case of dorsal vertebræ.—A case of Primary Cancer of the Kidney in a phthisical patient was then read. A labourer, aged fifty, married, came under Dr. CHAPMAN'S care whilst the latter had charge of Mr. Evershed's patients at the North London Consumption Hospital. The man was admitted last July. Both parents were alive and well. Seven years ago he

strained his side in jumping over the parapet of a canal bridge to save a child. In the following year he was discharged from the police force by reason of weakness in the right hip. At the same time a cough developed, with hæmorrhage on one occasion. In January, 1892, he had influenza, and a lump in the right loin was observed. On admission there was found tubular breathing at both apices. In the right flank, with the exception of a narrow band of resonance below the liver, dulness extended to the brim of the pelvis and laterally to the middle line of the body. In a few days œdema of the legs supervened. Urine: albumen two-thirds. No fluid was obtained by the hypodermic needle. On Aug. 10th blood first appeared in the urine. The temperature was 95° for twenty-four hours. On the 13th a small amount of puriform fluid free from blood was aspirated. On the 16th three pints of bloody urine were passed per urethram. This was repeated on the 19th and the patient died on the 20th. The necropsy revealed old adhesions at both apices of the lungs and radiating cicatrices in the cavity. The right iliac and lumbar regions were occupied by a large, rounded, semi-elastic tumour overlapping the vena cava and adherent to the cæcum and colon. Microscopically the tumour consisted of spindle-celled carcinoma with a very loose stroma.—Two obscure Renal Cases which came under the care of Mr. J. R. LUNN were described. One was the case of a widow, who was admitted on Sept. 8th, 1892, with slight hæmaturia and old doubtful signs of phthisis at the right apex. There had been dysuria and pain in the left side of the abdomen. The urine contained blood and pus, though no casts; but no stone was detected on sounding. Some fulness of the left renal region was noted. On the 29th she became unconscious for ten minutes, and the temperature rose to 102·2°. The pus in the urine increased, but this never became alkaline. On Oct. 9th the left kidney was cut down upon, but no stone was found, and the organ, being very soft and friable, with tuberculous abscesses, was removed. The patient rallied from the operation, but after nine days she succumbed. At the necropsy the right kidney weighed five ounces and contained several tuberculous abscesses. The bladder showed evidence of old cystitis, and in the anterior wall near the fundus there was a small chronic abscess discharging its contents into the bladder. The right lung showed evidence of old tuberculous disease. The second case was that of a man aged fifty-nine, who was admitted on Feb. 1st, 1890, with symptoms of renal colic. Six months previously he was suddenly seized with sharp pain in his left side. He continued working, but next day could not move. About a week afterwards he first passed a little blood in his urine, this being accompanied by a dull, aching perineal pain. On admission the left testicle seemed atrophied. The bladder was washed out and sounded several times, with negative results. With rest the pus disappeared from the urine and he was discharged on May 16th, 1890. He was readmitted on Dec. 14th, 1891, with the same symptoms and in addition the pain over the left kidney region increased by pressure. On Feb. 2nd, 1892, the left kidney was cut down upon, but no stone could be detected. The kidney was then replaced and the wound stitched up, and the patient made a good recovery, but the condition of his urine did not improve till September, 1892, when it was found to be once more normal.

PROVINCIAL MEDICAL SOCIETIES.

MANCHESTER MEDICAL SOCIETY.—At the meeting on the 5th inst., Mr. F. W. JORDAN in the chair, Mr. E. T. MILNER showed for Mr. Boutflower and himself a case of Pistol-shot Wound of the Abdomen in a boy of fourteen. The pistol was being carried in his right trousers pocket when it discharged. The bullet entered the abdomen midway between the umbilicus and the centre of Poupart's ligament. About three hours after the accident laparotomy was performed. The bullet was found lodged in the second lumbar vertebra between the aorta and vena cava and between the pancreas and duodenum. It had traversed two coils of small intestine, the transverse colon and meso-colon, dividing the main arch of the colica media vessels and wounding the third part of the duodenum. Each perforation was closed by a double row of continuous Lembert's suture of silk. No attempt was made to dislodge the bullet, but the peritoneum was brought together, thus closing the "exit" wound. The patient made an uninterrupted recovery.—Dr. J. MACKENZIE of Burnley exhibited his Clinical Polygraph, consisting in the adaptation of a tambour arrangement to a Dudgeon's sphygmograph, whereby at the same time that the radial pulse is being recorded a pulsation in the veins, liver, carotid artery, cardiac apex or respiratory movements can also be recorded. The various forms of the liver pulsation and of venous pulsation were shown, and the nature of the events could be readily recognised with the radial pulse as a standard. There was also demonstrated a method by which the time of the closure of the pulmonary valves can in many cases be detected with more certainty than the time of the closure of the aortic valves in the sphygmogram. As the instrument takes up very little room and can be easily carried in the pocket, it is well adapted for clinical purposes.—Mr. G. A. WRIGHT read a paper entitled Notes on Abdominal Surgery, illustrated by tables of 230 cases upon which he had operated, including cases of hernia and intestinal obstruction.

MANCHESTER PATHOLOGICAL SOCIETY.—The members of this Society held a meeting on April 12th, the President, J. S. BURY, M.D., M.R.C.P. Lond., in the chair.—Dr. MCNAUGHT showed specimens of Carcinomatous and Simple Ulceration of the Stomach and made some remarks on the diagnosis of such cases.—Dr. E. S. REYNOLDS showed specimens from a case in which there were Multiple Tumours of a scirrhous carcinomatous character. The primary growth was in the gall bladder with one large secondary growth in the liver around the gall-bladder and other secondary growths in the left supra-renal capsule, both ovaries, the scalp, and a large growth on the under side of the dura mater on the right side, immediately over the motor area, but producing no symptoms but pain and somnolence. Dr. Reynolds also showed a Myxo-gliomatous Tumour of the Pons, the symptoms having been total paralysis of the right seventh nerve, of both sixth nerves, of both internal recti muscles, with total deafness, staggering gait and vomiting and spastic paralysis of the left arm and leg. There was no optic neuritis, no paralysis of the fourth or fifth nerve, no affection of the pupils and no paralysis of the superior or inferior recti or inferior oblique muscles.—Mr. J. B. WOLSTENHOLME exhibited: (1) The Larynx of a Draught Horse, the subject of "roaring" and attacks of acute laryngeal dyspnœa in which there was extreme atrophy of the arytenoid and posterior crico-arytenoid muscles of the left side—there was no tumour or aneurysm pressing on the left recurrent laryngeal nerve; (2) Bones and Teeth from a Five to Six-year-old Ox, of a Deep-bronze Colour—there was no definite history to explain the occurrence of this diffuse osseous pigmentation; (3) Preparations from a case of General Equine Tuberculosis.—Mr. F. H. WESTMACOTT showed two specimens of Cysts developing in the remains of the Thyro-glossal Duct, which had been excised from children, one a boy of eight years, the other a girl of two. The cysts were bluish-red in colour, fluctuant, easily dissected out and contained clear mucoid fluid, with no oily sebaceous or hairy material. Sections of the cyst walls showed fibrous and areolar tissue, with columnar epithelium lining them.

WIGAN MEDICAL SOCIETY.—A meeting of this Society was held in the Board-room of the Royal Albert Edward Infirmary, Wigan, on April 13th, Mr. W. C. BARNISH, President, in the chair, who gave for his inaugural address a *résumé* of the Progress of Medicine and Surgery in the Victorian Era.—Mr. J. H. BRADBURY showed an adult with Ectopia Vesicæ.—Dr. WELDON C. CABTER showed the following cases:—(1) A case of Lichen Circinatus, the patient also possessing a supernumerary nipple on the right side; (2) Myositis Ossificans; (3) a case of Morbus Cœruleus in a girl aged five years; (4) Lichen Planus; (5) Compound Fracture of Forearm; (6) Cheiro-pompholyx; (7) a case of Pirogoff's Amputation; and the following pathological specimens—(1) Necrosis of Shaft of Humerus; (2) a Loose Cartilage removed from the Knee-Joint.—A paper on Puerperal Fever was read by Dr. M. BENSON. A discussion followed, in which the following members took part: The President, Dr. R. P. White, Mr. Latham, Mr. Rees Mr. Monks, jun., and Mr. J. P. Molyneux.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

PATHOLOGICAL SECTION.

Molluscum Dermatolyticum.—Hæmatoma of Dura Mater associated with Jacksonian Epilepsy.—Pachymeningitis depending on Ear Disease.

A MEETING of this Section was held on Feb. 24th, Mr. NIXON, President, in the chair.

Dr. O'CARROLL showed a young woman aged twenty, the subject of Multiple Molluscum Fibrosum on the trunk, with

a Dermatolytic Patch of Molluscum occupying the right side of the head as high as about an inch above the ear, the right cheek in its lower portion and the side of the neck.

Drs. EUSTACE and PARSONS contributed a case of Hæmatoma of Dura Mater associated with Jacksonian Epilepsy. A man aged twenty-eight, unmarried, was admitted to the Hampstead Asylum in September, 1888. There was no family history of insanity, but the family was neurotic. Gradually he became more and more demented. During the last two months of life he was completely paralysed, suffering from bedsores, and finally dying of pneumonia on July 30th, 1892. Post mortem a pachymeningitis was found extending over the left cerebral hemisphere and a large semi-fluid tumour over the right cerebral hemisphere between the dura mater and the arachnoid. The brain was much flattened on the right side and softened, but the pia mater was not adherent as in general paralysis, nor were there granules in the fourth ventricle. Five ounces of flaky fluid were found between the brain and the meninges. The contents of the skull weighed forty-nine ounces and the tumour alone seven ounces. Dr. Parsons stated that there was no indication whatever of traumatism.—Dr. BENNETT thought it was very important that the prevalent opinion that these tumours were of frequent occurrence after traumatism should be contradicted.

Dr. O'CARROLL showed a specimen of Pachymeningitis from a boy ten years of age, who had nine months ago, for the first time, epileptiform attacks. They were confined to the left side, were short in duration, and not accompanied by stupor, although there was unconsciousness for a short time. After death the dura mater over the parietal and adjacent portions of the right convexity of the brain was found to be much thickened, and bound down to the other meninges and the cortex by a dense structureless material in which patches recognisable as caseated pus still existed. The right middle ear was full of pus, the left tympanum being normal. The liver showed typical amyloid degeneration, the other organs being similarly, but in less degree, affected. The main question clinically would seem to be the cause of the epileptiform attacks. Dr. O'Carroll was inclined to believe that they depended on cicatricial strains on the cortex rather than on any directly irritative effect of the pus or dural thickening.

The PRESIDENT read a paper on Coma in Typhoid Fever; also one on a case of Aortic Patency.

Other papers were also read. One by Dr. M'Weeney on Tuberculous Tumours of the Brain; another by Mr. M'Cullagh on Fusion of the Tibia and Fibula.

SECTION OF ANATOMY AND PHYSIOLOGY.

Photographic Enlargements of Sections of Mammalian Brains.—Physiological Action of Atropine and Morphine on the Secretion of Urine.—Law of Transverse Vibrations of Strings applied to the Human Larynx.

A meeting of the above Section was held on March 16th, Mr. BROOMFIELD, President, in the chair.

Professor FRASER exhibited Photographic Enlargements of several sections of the Adult and other Mammalian Brains, showing, among other details, the course of the various tracts of the white fibres &c.—The PRESIDENT said the Academy ought to be very much indebted to Professor Fraser for such instructive specimens and for the enormous amount of labour which he had bestowed on them.

Dr. W. H. THOMPSON read a communication on the Physiological Action of Atropine and Morphine on the Secretion of Urine, in which he detailed the results of a series of experiments carried out by him in Professor Ludwig's laboratory, with the object of discovering the action of the two drugs mentioned on the secretion of urine in dogs.—Dr. PURSER said he had made experiments on morphia poisoning in rabbits and found the blood pressure in the carotids to be 200 mm. of mercury. He thought Dr. Thompson's results were a further proof of the importance of the cells of the kidney in the secretion of urine, and they showed that it is not a mere filtration that takes place.—Dr. THOMPSON agreed with Dr. Purser that 200 mm. of mercury was very high for a rabbit's blood pressure. He found, however, in one experiment that the pressure fell from 116 mm. to 30 mm., and subsequently rose until it reached a point equal to 116 mm. This occurred in three consecutive experiments.

Dr. ROBERT H. WOODS read a paper on the Law of Transverse Vibrations of Strings applied to the Human Larynx. According to this law, the tension required in order that the voice may emit a note an octave above a given one will not be in proportion to their rates of vibration, which is 2 : 1, but in the squares of that ratio, or 4 : 1, and similarly for a two octaves' interval the tension ratio will be 16 : 1, for three octaves 64 : 1. The depth of the voice in pathological conditions where the cords were thickened was referred to and shown to be due to the increase of the mass per unit of length.—The PRESIDENT said they were all much indebted to Dr. Woods for his paper. He, however, wished to question one point—viz., that the crico-arytenoidei laterales tensified the vocal cords and thus raised the pitch of the note.—Dr. BIRMINGHAM said that, according to Dr. Woods, the internal portion of the thyro-arytenoid would contract during the production of a high note, whilst the external portion contracted in producing a low note, so that the two portions of the muscle would be acting in direct opposition to one another, which, at first sight, is contrary to all our ideas.—Dr. WOODS, in reply, said that it is only when the cords have a very high tension that the crico-arytenoidei laterales have a double action.

SECTION OF MEDICINE.

Subjective Ozæna.

A meeting of this Section was held on March 3rd, Dr. H. TWEEDY in the chair.

Dr. J. KNOTT read a paper on Subjective Ozæna, in which he detailed the symptoms and treatment of four cases, in each of which the patient was affected by the sensation of the continuous presence of a bad smell. There were no conditions of organic disease connected with any of the cases.—Dr. N. FALKINER remarked that it was not surprising if we met with very alarming symptoms when there was a disorder of the olfactory nerve, considering how largely developed the olfactory bulb was in some animals. Odours sometimes gave rise to very marked symptoms. He remembered a case in which a linseed poultice applied to the leg caused repeated attacks of asthma.—Dr. R. A. HAYES said he had met with some similar cases, and pointed out that treatment should be directed to improving the general state of the patient. In true ozæna the patient himself did not suffer, because prior to any very offensive odour being developed the nasal mucous membrane was completely destroyed.—The CHAIRMAN said he was struck with the fact that all Dr. Knott's patients were males, of different ages and different occupations.—Dr. KNOTT briefly replied.

Reviews and Notices of Books.

Clinical Diagnosis: the Bacteriological, Chemical and Microscopical Evidence of Disease. By Dr. RUDOLF V. JAKSCH. Translated from the Third German Edition and Enlarged by JAMES CAGNEY, M.A., M.D. London: Charles Griffin and Co. 1893.

IF proof were needed of the advance which medicine is making towards a place amongst the sciences and also of the general recognition of this fact, it might be found in the production of works of the class to which the treatise of Professor v. Jaksch belongs and in the success which attends their publication. On its first appearance in an English form we cordially welcomed a book which we felt could not fail to exert a marked influence on thoroughness and accuracy in clinical observation, and it is with pleasure that we note the publication of a new and revised edition. There are many conditions of disease which cannot be elucidated by the ordinary methods of physical diagnosis; for, in spite of the refinements which have in course of time found their way into these methods, the use of instruments of precision and the like, there is an obvious limit to their exercise. The study of the blood and secretions fills up the lacuna, for it affords a means of accurately gauging the degree and kind of departure from the normal in these fluids which cannot be attained in any other way. There are, indeed, some affections in which this department of diagnostic inquiry may supply the sole and the most important clue to the real nature of the morbid condition, besides furnishing valuable hints as to the most rational method of its treatment. A work, then, like the one before us supplies a need, for it penetrates more deeply

into this branch of medical research than other manuals and text-books. As an indication of the extent to which the subject is treated we may take the first chapter of the book, that which deals with the Blood. This has been rendered more complete by Dr. Cagney, who adds a description of Haycraft and Williamson's method of testing the reaction of the blood, which Dr. Haycraft has found to vary in different conditions as widely as that of the urine. Considerable space is given to the description of the various forms of apparatus devised for the numeration of the corpuscles and the estimation of their hæmoglobin, and amongst those which have not yet, to our knowledge, been introduced into this country may be cited Bizzozero's "chromo-cytometer" (supplied by the translator) and Hedin's "hæmocrite," the latter characterised by Professor v. Jaksch as of great value in estimating the volume of the red blood corpuscles. The presence of "eosinophilous cells" in leukæmia receives ample attention, and a remarkable affection termed "anæmia infantum pseudo-leukæmia," in which multi-nucleated cells, nucleated red corpuscles and poikilocytes are found, is described by the author. The very interesting subject of the parasites of the blood is treated with notable fulness and perspicuity; in particular we would call attention to the account given of the hæmatozoa in malaria, which from its importance deserves to take rank with such discoveries as that of the tubercle bacillus and allied facts brought to light within recent years. The chemical changes of the blood open up a wide field of research, comprising spectroscopic analysis and the chemical tests for the detection of abnormal products. It is needless to say that inquiry in these directions has still much to determine, whilst the methods employed are for the most part only available in the laboratory. Thoroughness and systematic arrangement obtain in each of the sections of the work, and we observe that the translator has made several useful additions in many places. There is no other book in the English language which enters so fully into the subject of the gastric juice, whilst the sections on the examination of the urine, of the sputum, and of the fæces contain many new and valuable facts, or at least facts which have been lost sight of in other compilations. The labour involved in the preparation of such a work may be gleaned from the extensive bibliography which is appended to the volume, and the author deserves the gratitude of clinical workers for furnishing them with so trustworthy a handbook of reference. The work has been translated into many languages, and we in this country are thankful to Dr. Cagney for the share he has taken in its production here, whilst the excellent style in which it has been brought out reflects the highest credit on the publishers.

The Coal-Tar Colours with Especial Reference to their Injurious Qualities and the Restriction of their Use. A Sanitary and Medico-legal Investigation by THEODORE WEYL, with a Preface by Professor SELL. Translated, with permission of the Author, by HENRY LEFFMAN, M.D., Ph.D. Kegan Paul, Trench, Trübner and Co., Ltd., and P. Blakiston, Son and Co., Philadelphia. 1892.

IN this interesting little volume are contained the results of a very important research. Dr. Weyl has undertaken a series of experiments to ascertain whether all previous statements as to the toxic nature of the coal-tar colours could or could not be confirmed. According to existing literature the unwholesomeness or toxic nature of the coal-tar colours has not yet been satisfactorily determined, because researches with a definite purpose have not been forthcoming. In spite of this the majority of civilised nations have been constrained to forbid very definitely by rules and regulations the employment of certain colours in the preparation of food or household articles. Dr. Weyl's researches are therefore all the more important in that they are calculated to throw considerable light upon this subject and to contribute towards deciding whether the employment of coal-tar colours in food-stuffs is to be permitted or, on the other hand, forbidden on the grounds that they are a source of injury to health.

After devoting a few chapters to a useful description of the coal-tar-derived colours and the processes by which they are obtained from the crude product, he proceeds to give the results of his experiments, in which the dyes were administered endemically, hypodermically and by the mouth to dogs and rabbits. The nitroso colours were first tried. Di-nitro-resorcinol, from which is produced Alsace green, is not dangerous to dogs when administered by the mouth in large doses, whilst hypodermic administration proves fatal within twenty-four hours when given in the proportion of 0·19 gramme per kilogramme of the body weight. Naphthol green, belonging to the same group of colours, was shown to be harmless when administered by the mouth. On the other hand, in the hypodermic administration, in two out of three cases abscesses and septic fever were induced. Of the nitro colours, the effect of picric acid is described first. Its injurious character, says Dr. Weyl, is far less than has generally been assumed; nevertheless, the legal prohibition of its use as a colouring matter for food or drink is just. Then follows the saffron substitute, known as golden yellow, Victoria yellow, Victoria orange and aniline orange, which chemically is the potassium or ammonium salt of cresol-sulphonic acid. The experiments given indicate the poisonous nature of this substance, and they justify the hope that the authorities may restrict the sale of so dangerous a material and prohibit its employment for the colouring of food and drink. Notes of a case of fatal poisoning by saffron substitute are appended. Martin's yellow—naphthol yellow or Manchester yellow—another nitro colour, also belongs to the injurious group. As a colouring matter for food and drink its use should be wholly prohibited. For dyeing materials that may come in contact with the skin its use is also inadvisable, since an abrasion of the skin, even if superficial, may permit injurious action of the poison. On the other hand, naphthol yellow S, also a nitro colour, would appear to be harmless, an observation all the more interesting in view of the fact that it differs from the markedly poisonous Martin's yellow merely by one sulphonic group (HSO_3), the introduction of which into a colour renders it soluble. The influence of the sulphonic group in diminishing the poisonous action is again exemplified in the brilliant yellow of Schoellkopf, which is not poisonous, even in large doses, when administered by the mouth. The action of the nitro colour aurantia is suspicious, although for reasons stated its action was not fully investigated. Finally, of the twenty-three azo colours subjected to examination only two, metanil yellow and orange II, produce such effects that when administered by the mouth they can be regarded as poisonous. Of the remaining colours some produce vomiting (e.g., Bismarck brown) and others diarrhœa (fast brown, chrysamin R), and many develop a slight albuminuria. Naphthol black is undoubtedly poisonous when introduced into the subcutaneous cellular tissue.

We have noted but a few of the interesting results contained in Dr. Weyl's book, but they are sufficient to illustrate the importance of the work he has undertaken. According to these researches there is some ground for Dr. Weyl's contention that the dangers of poisoning from aniline colours have been much overrated. It must be borne in mind, however, that though the pure anilines are non-poisonous, yet they may possibly, nay, very probably, contain dangerous impurities, either as adulterants, or, and this is more likely, as residues of the materials used in their preparation—as, for example, arsenical compounds. As regards legislation in the matter of colouring foods, it may be remarked that it is well known that colour is often employed to disguise feebleness of quality, if it is not actually used to deceive. We heartily recommend all those interested in this subject to consult

Dr. Weyl's important contribution. We must congratulate Dr. Leffmann on his excellent translation of a work which, so far as we know, is the only one published in the English language which is exclusively devoted to this subject.

Qualitative Analysis Tables and the Reactions of Certain Organic Substances. By E. A. LETTS, D.Sc., Ph D., F.R.S.Edin., F.C.S., &c. Belfast: Mayne and Boyd. 1892

WE quite expected to find in the preface of this book an apology from the author and we were not disappointed. The apology is summed up in the last sentence, which reads as follows: "Every teacher has his own methods—acquired not only from his experience, but also largely through the researches of others—and this book embodies mine" There are many teachers and many books; many teachers are a necessity, but the publication of scores upon scores of books on the same and a well-nigh undebatable subject—the reaction of substances—is not only unnecessary but unfortunate. Lecturers and teachers are sorely puzzled to know what text-book to recommend to their pupils; the publisher's list is inundated with them—their name is legion. Professor Letts has not been able to make a satisfactory choice from this list, so he has made another addition to an already over-stocked *répertoire*. But his book of anayltical tables possesses certain redeeming features. It is evidently the outcome of experience as to the requirements of general students, and, above all, it has not been written apparently with the view of rushing the student through any particular examination. The solubility table (IX.), though somewhat complex, will be useful in conveying to the freshman information on the salts which are, and which are not, soluble. As a rule, the beginner in practical chemistry has but a vague notion of the solubilities of metallic salts; for he is frequently found to report a liquid which has been submitted to him for examination to be an aqueous solution, say, of barium sulphate, lead sulphate or phosphate, silver chloride, and so on—salts which are practically insoluble in water. The fact that the addition of an acid, corresponding with the precipitated salt, to a soluble salt of these metals causes a precipitate should prevent him from falling into this mistake. The articles on the reactions and properties of some of the more important organic substances, with tables for their detection, are good and should be of value to the student of medicine. The pages are boldly printed in clear type, and the book is commendably free from errors.

Passive Congestion of the Lungs from Heart Failure. By ALEXANDER MORISON, M.D. Edin., M.R.C.P. Lond. Reprint.

THIS essay, which originally appeared in the *Practitioner*, is a very careful and thoughtful study of a common condition which has seldom been dealt with in so adequate a manner. After studying the conditions of the pulmonary circulation in health and showing the relations existing between the circulation in the bronchial and pulmonary systems of vessels Dr. Morison proceeds to discuss the mechanism of the forms of vascular engorgement that are prone to arise in cardiac disease and to illustrate them with valuable clinical and pathological material culled from his note-books. He brings out the interesting fact that bronchial passive congestion tends in the first instance, and preponderatingly, to affect the left lung, whilst pulmonary congestion primarily affects the base of the right lung. In a closely reasoned argument he adduces facts in support of his view that the conditions of the bronchial and pulmonary circulation differ in the two lungs. The essay is an example of the scope there is for a clearer comprehension of the conditions of the pulmonary circulation and the light that may be thrown on it by the combination of clinical and pathological observation with the teachings of anatomy and physiology.

LIBRARY TABLE.

Introduction to the Antiseptic Treatment of Wounds according to the Method in Use at Professor Billroth's Clinic, Vienna. Translated from the German of Dr. VICTOR R. V. HACKER, Assistant in the Clinic Billroth, by Surgeon-Captain C. R. KILKELLY, M.B. London: Percival and Co. 1891.—Dr. Hacker's pamphlet is a concise and simple account of the wound-treatment by iodoform which has been so largely and successfully adopted by Professor Billroth. An account is given of the various appliances used and of the ways of preparing for, and of conducting, an aseptic operation. The translation is somewhat marred by the use of German idioms, but will no doubt be useful to a large class of readers.

The Medical Annual and Practitioner's Index, 1893. Bristol: John Wright and Co.; London: Simpkin, Marshall, Hamilton, Kent and Co., Limited.—This compact and useful volume has gained for itself a well-established position amongst the periodical publications devoted to digests and summaries of medical literature. The plan upon which it is drawn up is well suited for reference, whilst the subjects treated of seem to have been selected with discrimination. The editor has been fortunate in securing the assistance of a large and able staff in every department of medical science, and the articles are for the most part far from being mere abstracts—many are critical reviews of new departures in our knowledge of diseases and their treatment. Professor Hare of Philadelphia contributes the opening article on the Present State of Therapeutics, in which he points out that the aims of modern medicine are directed more and more to a rational system of treatment based on pathological knowledge. The array of new remedies noticed in the next succeeding pages shows, however, that the empirical method is by no means extinct. The bulk of the work is comprised in the second part—a "Dictionary of New Treatment in Medicine and Surgery, 1893," but the reader will find that the subject-matter deals also with pathology and practical medicine. A useful article on Laryngoscopy is contributed by Dr. Watson Williams. The recent developments of the pathology of cancer and of tuberculosis are treated by Mr. W. N. Elam and Dr. Armand Ruffer respectively; Mr. Mayo Robson contributes a series of articles on Abdominal Surgery; Dr. Shingleton Smith writes on diseases of the lungs and pleura; Dr. Wethered on many topics in medicine; Mr. Lang on ophthalmic subjects; Dr. Dundas Grant on aural surgery. The list of contributors includes some well-known foreign writers. Dr. Priestley, the medical officer of health, Leicester, contributes an account of progress in sanitary science, and the volume contains much useful information upon the literature of the year, asylums &c. We are not surprised that the annual should have become popular with the profession, and we hope that in next year's issue the inset of pages of advertisements between the title-page and index will be abandoned. It is perhaps the only feature of the book which might with advantage be modified.

Walter Hayle Walshe, M.D. A Biographical Sketch. Reprinted, with additions, from THE LANCET of Dec. 31st, 1892. By J. RUSSELL REYNOLDS, M.D., F.R.S.—No one was better fitted, by personal knowledge of the late Dr. Walshe, as well as by admiration of his sterling qualities and congeniality of pursuit, to write this memoir than Dr. Russell Reynolds. The *éloge* of Dr. Walshe is worthy alike of the great physician whose virtues and achievements are here set forth and of the writer whose task it has been to embalm them. The life-record of Dr. Walshe has, in substance, been already given in our pages, but it was fitting that that record should be reproduced in a form convenient for distribution amongst friends and admirers, lay as well as professional.

THE LANCET.

LONDON: SATURDAY, APRIL 22, 1893.

IN an account of the diagnosis and operative treatment of three cases of brain tumour recently published in the *American Journal of the Medical Sciences* Drs. MCBURNEY and ALLEN STARR have furnished an interesting contribution to this subject. The cases are perhaps all the more important from the fact that they were not quite satisfactory in their result, and we would emphasise the plea which is urged in this article that all results in this branch of medical science, even those which are unfavourable, should be recorded, in order that it may be more easy to properly estimate the dangers of operation and the difficulties of correct localisation. In this paper the various steps of the operation itself and the best methods of carrying them out are considered. Very careful antiseptic precautions are of course insisted upon. The head should be completely shaved and the scalp thoroughly cleansed. The scalp incision should be free, and the usual horseshoe shape is recommended. The bleeding from this is apt to be considerable, and the method advised for controlling it is to compress the entire wound with dry gauze, lifting the gauze at point after point and immediately securing the vessels with pressure forceps. For entering the skull WAGNER'S method is recommended. This consists in cutting through the skull with a chisel in the line of the scalp incision before the skin flap is reflected, afterwards reflecting the flap consisting of bone and scalp united. Hæmorrhage from the bone may be troublesome, and it may be necessary to plug some of the vessels with gauze or sponge. The dura mater is then incised and reflected, and the tumour dealt with by either total or partial removal. To control bleeding it may be necessary to pack the cavity with gauze. In operating for cerebellar tumour trephining is to be preferred, the opening being afterwards enlarged with forceps.

The first case narrated is that of a man aged forty, who in December, 1890, had a fit commencing with giddiness and a feeling of distress, and followed by forcible turning of the head to the right. Consciousness was lost, and when it was recovered there was evidence of weakness of the whole of the right side and of some difficulty in talking. Subsequently the patient suffered from occasional attacks of nausea and impairment of vision. When first seen he had severe and constant frontal headache, especially on the left side, with tenderness on percussion. There was no vertigo, but optic neuritis existed in both eyes, and vision was more defective in the left eye. Dulness and slowness to appreciate the meaning of questions were noticed; there was also slight weakness on the right side, affecting the face, arm and leg, but, although numbness was complained of, there was no anæsthesia. Anti-syphilitic treatment brought no amelioration of the symptoms, and six months after the man was first seen the condition remained unaltered, but the symptoms were more marked; the right-sided weakness was greater and the mental condition more sluggish. The tumour was believed to occupy the posterior part of the second frontal convolution and at the operation it was found in that region. It was, however, very large, measuring two and a half by one and three-quarter inches. It was encapsuled and was shelled out with comparative ease and completeness. The loss of blood and shock, however, led to the patient's death eight hours after the operation.

The case of the next patient was one in which the prominent symptoms were severe headache, frontal and occipital, vertigo, tinnitus aurium and numbness on the left side of the face and in the mouth, with drowsiness and dulness. There was double optic neuritis, together with dimness of vision, which soon culminated in blindness. The patient also became deaf in the left ear. Staggering, with tendency to fall to the right side, also developed, with weakness of the right hand and exaggeration of the right knee-jerk. The diagnosis was made of the existence of a tumour on the left side of the cerebellum, but an exploratory operation failed to substantiate it, although the great bulging of the cerebellum made it evident that a neoplasm was present within the cranium. Recovery from the effects of the operation was satisfactory, but eventually the patient rapidly passed into coma and died. After death a tumour was found lying on the base and compressing the left cerebellar hemisphere and also the left side of the pons. The fifth nerve on this side was flattened, and the auditory and facial nerves were also pressed upon. The position of the tumour of course was such as to render it inaccessible.

The third case was that of a child aged seven who had suffered for a year from severe headache, chiefly frontal, impaired vision going on to blindness, the result of optic neuritis, and staggering gait, which was not, however, marked in any particular direction. It was thought that the tumour was situated in the vermiform process of the cerebellum and at the operation puncture with an aspirating needle resulted in the evacuation of two drachms of clear serous fluid. The patient died six days after the operation, as a result apparently of a severe attack of vomiting, and at the necropsy a large glio-sarcoma, two and a half inches long, was found to occupy the vermiform lobe of the cerebellum and to extend into both hemispheres, especially the right.

The last two cases are particularly interesting with reference alike to the diagnosis and the technique of the operation. These points are fully discussed in the article under consideration, and a list of the cases in which operation has been attempted in cerebellar cases is added. Including the two mentioned, there are now records of thirteen operations of this kind. In six of these the tumour was not found at the operation and the patients died; in one case the tumour was not found, but the patient lived; in two the tumour was removed, but the patients succumbed; in two it was found, but could not be removed and the patients died; in one case it was found but not removed, and the patient lived; and in only one case has it been successfully removed. The percentage of deaths after operation in cases of cerebellar tumour is found to be so far 77 per cent. as compared with 51 per cent. in cerebral cases. Although such results may be disappointing they need not be discouraging,

and such cases as those recorded in this paper are most valuable for their suggestiveness, in regard both to diagnosis and treatment.

WE receive from time to time communications from medical men, clergymen and others in Australia protesting against the practice of sending advanced cases of phthisis to that country, and asking us to use our influence to prevent what they regard as a great error, entailing severe suffering and disappointment upon an unfortunate class of invalids and often involving discredit to the medical profession. Our correspondents draw distressing pictures of patients far advanced in consumption who land in a strange country friendless and almost penniless, cherishing a most exaggerated idea of what the climate can do for them, driven by the stress of circumstances to enter laborious and unsuitable occupations and too frequently sinking rapidly into the grave, the only result of their long journey and numerous hardships being, as one correspondent expresses it, that "the bitterness of exile is added to the bitterness of death." We have no doubt whatever that these pictures are in the main correct and that the complaint of our Australian brethren is well worthy of the most serious attention of the public and the medical profession at home. The idea (on the whole a correct one) that "Australia is a good climate for consumption" having taken hold of the public mind, the most erroneous and sweeping conclusions have been drawn from it. It is forgotten that Australia is a vast country, almost as large as Europe; that it includes the widest diversities of climate, that immense regions are undeveloped and offer no facilities or comforts to the invalid. It is also forgotten that there are types of even early pulmonary phthisis for which Australia is quite unsuitable, and lastly, that in the great majority of very advanced cases of the disease no climate in the world can effect a cure. When dealing with advanced and incurable cases physicians have a hard and thankless task to perform. Such patients are eager to try a new climate. Having often trifled with their malady when in its earlier stages and ignored significant warnings and timely advice, they are now quite alive to their danger and will go anywhere or do anything if the least hope of cure is held out. We will not undertake to define precisely what constitutes an "advanced and incurable" case of phthisis, but physicians of experience can do this for themselves. Our point is that such cases should hardly ever be sent on distant journeys and that in particular Australia is most unsuitable for them. We would urge medical men to be quite frank with such patients, to tell them that palliation and not cure is all that remains to be hoped for, and to throw upon them the whole responsibility of undertaking distant journeys where the prospects of benefit are so slight and the various risks to advanced cases of phthisis so grave. Such advice is painful to give as it is painful to receive, but frankness is in this case a positive duty and the only real kindness. Patients of this class should be advised either to remain amongst the comforts and affections of home or to select some mild and sheltered resort within easy access of their friends.

The hardship and uselessness of sending advanced cases of phthisis to Australia are much aggravated by the fact that the great bulk of such patients are slenderly provided with money, and are soon driven to undertake unsuitable occupations. The physician, properly enough, talks to such patients of the importance of an easy out-of-door life, of light and congenial work, of abundance of sunshine and fresh air, but unhappily the large majority of cases have only a very limited choice in the matter. Being in most cases city-bred they linger about the great towns, knowing little about the conditions of life on the large up-country "stations," and shrinking from what is unfamiliar and repellant. They drift into warehouses and factories, and soon find that they have gained nothing by their change of country and that the course of their disease is steadily downwards. It is easy to define what should be the course of conduct of such patients landing in Australia, but the difficulty is that the requisite conditions are only exceptionally attainable. The sufferer from phthisis who selects Australia should be warned that an in-door city life means almost certain death to him. He should be advised to select some one of the regions of the interior which have an acknowledged reputation in the treatment of phthisis. In the selection of the particular spot he should be guided by the recommendation of the best medical opinion in Melbourne, Sydney, or Adelaide. He should undertake, at the most, only some light out-of-door work until the course of his disease and his prospects of cure seem clear. If, through straitened means or other causes, these conditions are unattainable, it becomes a most serious question for physicians at home whether they should assent at all to their cases resorting to Australia. Climate is still our most potent aid in fighting phthisis, but it is easy to exaggerate the influence of climate *quâ* climate. The really important point is that certain climates favour the return to a healthful mode of life and the practice of a sound hygiene, and on these two points everything turns.

Much of what we have written regarding Australia applies equally, *mutatis mutandis*, to other resorts, but our attention has been specially drawn to our great southern dependency by complaints to which we could not turn a deaf ear. We earnestly commend them to the most serious attention of all concerned in this subject. We must not conclude without remarking that our correspondents, whilst deploring the disastrous consequences of sending advanced cases of phthisis to Australia, are eloquent about the great benefits which the climate often confers upon early and incipient cases. We believe this opinion also to be well founded and we must strive to avoid anything like panic or one-sidedness on this subject. Our decided belief is that for certain cases of early phthisis, especially in lymphatic or phlegmatic subjects who are likely to benefit by the stimulation of the climate, certain parts of Australia—e.g., the Riverina of New South Wales and the Darling Downs of Queensland—offer great advantages. But we must carefully discriminate between our cases, and we quite agree with our correspondents that the time has come for checking the wholesale deportation of phthisical patients of all types and in all stages under the illusory idea that the climate of Australia is a universal panacea.

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* INTEREST in the medical aid question is shown in the various meetings of Friendly Societies and their medical associations. The Friendly Societies' Medical Alliance held their four-

teenth annual conference on Easter Monday at Gloucester. The chairman, Mr. JAMES ALLEN, President of the Gloucester Association, said the subject of most pressing importance was the relationship existing between the association and the members of the medical profession, together with the control which it is proposed should be exercised by the General Medical Council over such associations. He remarked rightly that the privileges enjoyed by the medical profession were granted not for personal benefit so much as for the public good and at the same time said that the associations were desirous of meeting all reasonable suggestions from the members of the profession. The question of medical officers' agreements with associations gave rise to much discussion, many institutions having experienced considerable disadvantage through the want of an agreement which would be acceptable to medical men. The representatives who had been called by the committee of the General Medical Council which was investigating the subject gave reports as to the questions which were asked and which seemed to require attention. They concerned chiefly the admission of "public members," alleged touting or canvassing, the admission of registered societies, the employment of unqualified men, the suggested imposition of a wage limit and the disposal of surplus savings or so-called profits. It was resolved that the imposition of a wage limit was impracticable and undesirable. As regards the admission of unregistered societies it was agreed that this could only be satisfactorily dealt with by the local association affected. Thanks were voted to Mr. LABOUCHERE, M.P., and Mr. T. ROBINSON, M.P., for raising the question in the House of Commons and for their interest in other ways. The best interests of the Associations in this matter cannot conflict with those of the medical profession and it may be hoped that the Associations will coöperate with the General Medical Council in their adjustment.

Dr. HUTTON, medical officer of the Scarborough Medical Aid Association, speaking at a recent meeting of that body, said he thought the opponents of these associations failed to realise the purpose for which the associations were established. They were not for the upper classes, but for those who were unable to pay the ordinary fees of the practitioner, and were intended to promote thrift amongst those who would otherwise require the aid of the parish doctor a good deal more frequently. Dr. HUTTON fails to realise that the charge against these associations is that they do not restrict their operations to the classes which he enumerates. There would be little difference of opinion if this were so. Dr. HUTTON thought that if the conclusion of the General Medical Council should be adverse to the associations it would be a question for the consideration of Parliament. This suggestion is not one that should proceed from a medical man. Parliament cannot look at all the bearings of this question as the General Medical Council can, and members of the profession should show confidence in a body appointed by Parliament to represent the profession and its best interests.

ST. ANDREWS MEDICAL DEGREES FOR WOMEN.—The teachers of the Medical College for Women, Edinburgh, have been recognised as "lecturers specially appointed" under the recent ordinance of the Scottish Universities Commissioners. The Medical College for Women, Edinburgh, claims, therefore, to be just as much a part of St. Andrews University as is the Edinburgh School of Medicine for Women.

Annotations.

"Ne quid nimis."

THE NATIONAL LEPROSY FUND.

WE understand that the date of the simultaneous publication in England and in India of the report of the commissioners has been fixed for May 1st. The report will be prefaced by a memorandum thereon which has been prepared by the executive committee of the fund. We think it desirable to make this statement in view of certain premature and unauthorised announcements which have appeared from time to time in the public press. It is greatly to be regretted that the "private and confidential" nature of the documents connected with the report has not been respected. It is only right to explain to our readers that our reason for not furnishing them with earlier information on the subject has been due to the fact that we did not feel justified in dealing with a matter which was not considered by the responsible authorities to be ready for publication.

THE WATER-SUPPLY OF CHICAGO.

WE have received from the Secretary of the Royal Commission for the British Department of the Chicago Exhibition the following message by telegram, dated from Chicago, the 13th inst., but which reached us too late for insertion in THE LANCET of last week :—

"To LANCET, Strand, London."

"Have been requested by Waukesha Hygeia Company to correct error in your recent report. There will be charge for the pure drinking water as furnished by the Waukesha Hygeia Mineral Springs Company from their springs in Waukesha county, Wisconsin. This water will be brought to Exposition grounds, distance 100 miles, through six-inch steel pipes and, to avoid using ice, cooled by refrigerating process and dispensed to consumers from 250 booths at temperature of 38° at 1 cent a glass, but to State buildings, exhibitors and concessionists will be delivered at 5 cents a gallon meter measurement, meters, faucets and connexions being furnished free.

"SIR HENRY WOOD,
Secretary, British Commission."

We give the message exactly as received, because it is not clear to us what is the correction which we are asked to make; indeed, reading in the light of Sir Henry Wood's telegram the references to the Waukesha Hygeia water contained in the report of our Special Commission they appear to us to be perfectly accurate, and we imagine that additional information and not correction is what the present communication is intended to supply. In the course of our inquiries a considerable amount of information concerning the Waukesha water supply was brought together, of which only the main result could be embodied in the published report, as the exigencies of our space compelled us to compress into the smallest possible compass the results to which our inquiry led. It may, however, help to elucidate the telegraphic message which we have given above—somewhat obscure as it is, after the fashion of telegrams through excessive condensation—if we state somewhat more fully what we understand to be the arrangements made as to the supply of Hygeia water in Chicago during the World's Fair. The village of Waukesha is situated on the western shore of Lake Michigan, about 104 miles from Chicago and near the town of Milwaukee. It has a natural elevation of about 200 ft. above Chicago and possesses several springs of water which enjoy a considerable reputation throughout the neighbourhood of Lake Michigan—a reputation which our analysis has shown to be well founded. The Hygeia Spring and, we believe, another in the same locality, are owned by the Waukesha Hygeia Mineral Spring

Company, which has for some time past sold its water in Chicago and elsewhere, and has established a considerable trade in that commodity. Heretofore the water has been brought to Chicago by rail and delivered to customers in bottles or sealed tanks. The company has, however, obtained from the promoters of the Exhibition an exclusive concession of the right to sell water within the Exhibition grounds, and for the purpose of this service has constructed and laid the pipes referred to in the telegram. The water so conducted to Jackson Park will there be cooled in tanks by means of refrigerating machinery, the cooling medium being not ice but brine circulating in coils of tube within the tanks, so that the water will be exposed to no risk of contamination whatever from this source. From these tanks it will be delivered for consumption, as stated, by means of service pipes laid in the grounds at various booths conveniently placed for the purpose. The arrangement that exhibitors are to be supplied at 5 cents (2½*d.*) a gallon was not known to us; and possibly, we imagine, not publicly known when our information was collected. Thus it will be seen that this, although an important item in connexion with the water-supply of Chicago, is one to which it was not possible for us to devote any detailed notice, since it affects only a strictly limited department. Even visitors to the Exhibition cannot dwell within its precincts. They must drink water at their hotels or lodgings, and the scheme now under notice does not affect the domestic supply, or at best affects it only indirectly and to a very small extent. The water which is served *free of cost* is and must be of much greater importance from the sanitary point of view than any water that is only offered *for sale*. It has, indeed, been asserted that there will be no provision of *drinking water free of cost* within the Exhibition grounds, but we have not been able to verify this statement and therefore do not wish to give it further currency. Indeed, without verification we are not at all disposed to accept an announcement which would be so very damaging as this to the reputation for hospitality of our American friends.

PROFESSOR LOMBROSO ON SEX AND CRIME.

ANOTHER of those studies, always interesting, if sometimes more ingenious than sound, in which the professor of legal medicine at Turin embodies his great experience in criminal psychology, is about to issue from the press. Its title is "La Donna Delinquente," and its purpose is to connect the phenomena of crime in woman with her constitution, physical and mental, as moulded or modified by the conditions of social life. From an induction of several hundreds of females who have come under his cognisance in private practice and of several thousands examined by him in the prisons of Turin, of Rome and of Moscow, Professor Cesare Lombroso proceeds to trace the genesis of the criminal propensity in the sex, and from stage to stage of the life-history to show how the "tendency towards crime" develops *pari passu* with the deteriorating physico-mental organism. Together with the descriptive letterpress the volume will present a series of portraits photographed from typical specimens of "delinquent woman," beginning with the semi-savage individual and culminating in the highest grade of the social order. An important chapter, from the gynæcological point of view, is that in which Professor Lombroso analyses the "donna normale," and seeks to explain why she may be, at the same time, "pietosa" (compassionate) and "crudele" (unfeeling), and how it comes about that in the matter of sexual passion she is, on the whole, less pronounced than man. Another conclusion at which he endeavours to arrive is that the variations between woman and woman are less than those between man and man in strength of mind and even of body and that the same law holds good in the sphere of "anomalies" of the physical and mental organisation. In this connexion Professor Lombroso tries to prove that atavism in woman, particularly in the matter of criminal propensity, is a more "constant quantity" than in the male sex, so that once the "tendency towards crime" has been established by the permanence of conditions favourable to it, its manifestations are more likely to be transmitted from grandmother to granddaughter than from grandfather to grandson. Deterioration once started in the female proceeds more rapidly than in the male, whilst "nella donna criminale nata si possono accumulare ferocie superiori a quelle del maschio" (in the woman who is a born criminal there may accumulate ferocities of a more pronounced type than in the congenitally criminal man). The statement and exposition of these and similar inductions constitute the bulk of Professor Lombroso's volume, in the preparation of which he has had the assistance of his colleague Dr. Ferrero and of alienist experts of other nationalities.

DEATH DURING ADMINISTRATION OF CHLOROFORM.

DR. SELBY W. PLUMMER writes: "A lad aged sixteen was admitted to the County Hospital, Durham, on the 8th inst. suffering from the symptoms of acute intestinal obstruction. Shortly after admission he was placed on the table with a view to abdominal section. Nothing was discovered to contra-indicate chloroform. Not more than ten minims of chloroform (Duncan and Flockhart's) were sprinkled on a piece of lint (folded once), which was held about two inches from the patient's face. He had not taken more than three quiet breaths when the respiration and heart simultaneously ceased. Two slight attempts to vomit followed. The head was at once lowered and artificial respiration commenced; ether and brandy were injected into the chest and the battery was applied. Acupuncture was also resorted to, and the chest was flicked with a cold towel. Though air entered the chest freely during artificial respiration, there was no return of the heart's action. The necropsy five hours after death gave the following results: The intestines were matted and glued together, with universal peritonitis; no definite stricture was found; the abdomen contained a quantity of purulent fluid; the other organs were healthy. The lungs showed slight signs of recent pneumonia and there were many pleuritic adhesions, especially on the right side, with a small quantity of fluid in each pleural cavity; the pericardium contained a drachm or so of clear fluid; the heart, which had been arrested in systole, was apparently perfectly healthy; beyond this nothing was found. The anæsthetic was administered by an experienced anæsthetist, a fully qualified surgeon. The lad's condition was critical, but not sufficiently so to preclude operation. The vomiting was constant, not profuse, of a 'coffee ground' character and not fæcal. He had just previously borne well a nearly three miles' drive in a cab to the hospital. His symptoms, from the history supplied, had lasted two days, and there was a previous history of pneumonia. I have purposely refrained from heading this communication a case of 'Death *under* Chloroform.' I do not think the excessively minute quantity inhaled could have contributed to the result, and I am inclined to regard it as a melancholy incidence of sudden death just as anæsthesia was commenced. In no sense was the lad under the influence of the drug. Though he was not at all nervous about (indeed, he was wishful for) the operation, no preparations had even been begun that could have frightened him. So sudden was it all that practically he could not have received the vapour of more than four or five minims. One word as to the mode of administration. I entirely fail to agree with those who so strongly condemn a piece of folded lint. My own experience as an anæsthetist leads me to regard it as a perfectly safe method and infinitely more convenient and easy to manage than most of the 'masks' or other appliances which I have tried. I always prefer to use a piece of lint myself and (as

in this case) to see it used by others. It turned out at the inquest that the lad dated the onset of his symptoms from a strain at 'fives,' and the jury ignored the influence of the chloroform as the cause of death." There is no doubt, we think, that the death occurred "under" rather than "from" chloroform. Whether minute doses of chloroform are wholly free from danger is not at present certain. Many persons hold they are not, and it is a curious circumstance that so many fatalities under this agent occur at the first stage of the inhalation, when presumably the most minute dose has been taken. This form of death is most exceptional, if it ever occurs, in the initial stage of the inhalation of ether. In saying this we must not be supposed to hint that ether would have been a safer or more desirable anæsthetic in this case, for we do not consider ether could have been given satisfactorily or that more could have been done than was done for the patient. Mr. Thos. W. Bailes, house physician to the Westminster Hospital, furnishes the following account of a death under chloroform which occurred in the Westminster Hospital on March 21st. A child aged three years while being anæsthetised with chloroform preparatory to an operation for adenoid vegetation of the pharynx, died suddenly. The anæsthetic was at first administered on a flannel face piece, until the child was under its influence, when a Junker's inhaler for administration through the nose was substituted owing to the nature of the operation, four drachms of chloroform being placed in this inhaler. The child at first took the anæsthetic fairly well and in all had had little over a drachm. The operation itself had scarcely been commenced, the operator having only just introduced his fingers and forceps into the child's mouth and no tissue had been removed. The above-mentioned inhaler had just been substituted for the flannel one, but nothing more than a few minims of chloroform were inhaled from it when the child suddenly ceased to breathe, the pulse almost immediately becoming imperceptible at the wrist. Artificial respiration was commenced and kept up for half an hour, brandy was subcutaneously injected, cold friction employed and tracheotomy performed, but all without avail. At the necropsy the heart was found in a rather peculiar condition, the left ventricle being firmly contracted, whilst the right was in diastole, but empty, and the large veins leading to it full of blood. The lungs were considerably congested. At the inquest a verdict of "Accidental death during chloroform administration" was returned.

OUR NATIONAL RESPONSIBILITY FOR THE PROTECTION OF CHILDREN.

IT is a matter of regret that the National Society for the Prevention of Cruelty to Children, though advancing year by year both in the extent of its beneficial control and the success of its administration, cannot as yet quite command that general and united support which is indicated by its patriotic title. The additional strength which its efforts must gain from such a consensus of national opinion in its favour need hardly be insisted on. As it is the association most naturally capable of carrying out in a continuous policy the provisions of the Children's Protection Act, it is clear that such support cannot elsewhere be more fittingly bestowed. We would not, indeed, seek to impair or discourage the related purposes and energies of other local societies of a like nature. At the same time, we cannot but admit the obvious practical advantages which belong to sustained and united effort. We would therefore ask of all such bodies at least a recognition of the one common object, the restraint of cruelty, and an intelligent combination of their forces under whatever designation with those of the greater organisation. The countenance lately accorded to the Society by H. R. H. the Duke of York will, we trust, prove—as it should—a powerful stimulus in this direction. A recent return by the Society shows that in one month—February last—980 genuine cases of cruelty were dealt with. The majority of these fell under the heads of neglect and general ill-treatment, the common causes of the former being drunkenness on the part of parents or some interested motive, such as that afforded by child insurance or the inconvenient stigma of illegitimacy, while more savage temper formed the usual inducement to cruel violence. The Society's work, as detailed in the pages of its monthly publication, affords ample evidence of the continued utility of its efforts and the justice of its claim to a liberal share of public favour and support.

DEATH OF LADY LISTER.

IT is not often that we feel justified in noticing in our columns the domestic grief of even the most eminent members of our profession. But the death of Lady Lister from acute pneumonia, whilst travelling with Sir Joseph Lister in Italy, is an event so unexpected and so sad that we feel constrained to make it an exception. Lady Lister was not only the devoted wife of a most distinguished surgeon, but was also the daughter of one of the greatest leaders in modern surgery—the late Mr. Syme of Edinburgh. In public gatherings Sir Joseph and Lady Lister were seldom far parted, and they were equally together in their times of rest and in remote places. How far Lady Lister assisted her husband in his great labours is not for us to inquire, but those who enjoyed the benefit of his correspondence will guess that she was indeed his true "helpmeet." We cannot under such circumstances withhold from Sir Joseph Lister the expression of our sincere sympathy, which we are sure will be echoed by the whole profession not only of Great Britain but throughout the world.

BAKERIES AND BREAD-MAKING.

ON Nov. 30th, 1889, we published the Report of our Special Sanitary Commission on Bakeries and Bread-making. Our commissioners described on that occasion several underground bakeries on the Surrey side, and pointed out that it was absolutely impossible to make bread under sanitary conditions in cellars situated below the level of the streets. Dr. F. J. Waldo, medical officer of health of St. George's, Southwark, has just presented to the local sanitary authority a report on the condition of the retail bakehouses within his district. In the course of his investigations Dr. Waldo has visited sixty-five bakehouses, and the results in every sense confirm the opinions expressed and the description given by our commissioners four years ago. Though the surroundings when bread is made in cellar bakeries must at times impair the quality of the bread, the harm done to the bread-maker himself is far more injurious. From the reports of the journeymen bakers' benefit societies we gave strong proof of the injury that was caused; Dr. Waldo now quotes Dr. Ogle's well-known tables of comparative mortality according to occupation, which show that bakers are exceptionally subject to diseases of the lungs and other respiratory affections, rheumatism, heart disease, stomach and bowel complaints. As a natural result of so much suffering a strong tendency to intemperance and suicide is developed in those engaged in the trade. Dr. Waldo joins us in demanding the suppression of underground bakeries. In the face of the evidence given in his report, we would add that, if this is justified as a general measure, the abolition of cellar bakeries is particularly urgent and necessary in all low-lying districts. The existence of drain openings leading from cellar bakeries to the street sewer is extremely dangerous even when such drains are properly trapped. Dr. Waldo says: "In times of heavy rainfall, and less frequently with high tides, it is not an uncommon occurrence for the sewage to force its way through the drain-traps

into the bakehouse, to cover the floor and to rise to a height of one foot and a half, one foot and nine inches or two feet. The sacks of flour, raised a few inches upon wooden platforms, are not infrequently soiled with sewage matter. Given the presence of the bowel discharges from a case of typhoid fever or cholera in the sewer and one can easily understand how these diseases may be propagated to those who eat the bread contaminated by the hands of the journeyman baker, who is often far from clean in his person and habits." In such cases as these it is not merely the hands of the baker, but the walls, the floor and sometimes the very flour itself which are soiled by the sewage that has flooded the bakery. Dr. Waldo suggests that bakehouses should be established on the top floors of houses. How far the flimsy, jerry-built houses, where small bakeries are generally located, are strong enough to bear the weight and heat of ovens on their top floors is a question we are not now prepared to discuss; but of one thing we are convinced, that, from a sanitary point of view, the extinction of the small bakehouse is to be desired.

WOMEN WORKERS IN THE UNITED STATES.

A REPORT of the Labour Commissioners of the United States says that the women engaged in industries and professions amounted in 1875 to 21·23 per cent. of the entire female population. In 1885 this proportion had increased to 29·82 per cent., and since then the augmentation of women workers still continues. Nevertheless, it is thought that on the whole the effect of this work is not unfavourable to the health of women. This can be explained by at least two facts which do not obtain in England. In the first place, the wages that women earn seem decidedly higher than those in England; and, secondly, we are told that the majority of women abandon work before they are thirty, and that most of them cease to work when they marry. This is not the case in England, and it is the fact that married women and mothers work in factories, in the chain-making districts and in sweating shops that causes the high mortality and urges the philanthropist to advocate legislative interference. Of 17,427 women examined only 373 were found to be earning less than $100 a year. In London the sum of 15*s.* a week is considered a fair wage in many workshops and is much more than many workgirls obtain. Though luxuries and clothing are dear in the United States plain food is cheap. The largest number of women workers earn from $200 to $250 a year (£50 to £62 a year), which is above the usual English rate. This helps to explain the fact that the health of the women in the United States does not seem to be affected.

THE CHARITY COMMISSIONERS AND ST. THOMAS'S HOSPITAL.

A RETURN made by order of the House of Lords contains some correspondence which has passed between the Chief Charity Commissioner and Lord Sandhurst concerning the relations of the Commission to St. Thomas's Hospital as these were presented in evidence before the committee and by the committee's report to the public. The Commissioner complains, in effect, that a false impression has been created by evidence given on behalf of St. Thomas's Hospital attributing to the rules enforced by the Commissioners respecting moneys in their hands the inability of the hospital to apply, in reduction of an interest-bearing debt, certain of its invested funds. The interest payable by the hospital upon its loan being greater than that receivable upon the investments in question, there resulted a clear loss of the difference in interest amounting to one per cent. per annum. The Commissioner shows, by a very precise statement of the communications which have passed between his office and the hospital, that the Commissioners are not responsible for this very strange finance, and not unnaturally complains that the Lords' Committee made the supposed shortcomings of the office the subject of comments in their report, under a misapprehension of the facts of the case—a misapprehension which would have been removed at once if the charge preferred against the Commissioners had been brought to their notice and they had enjoyed an opportunity of tendering evidence in their own defence. The present return can hardly be expected to circulate as widely as the committee's report, but it serves at least to clear the official record of an error which, from what now appears, ought never to have crept into it.

THE MEDICAL EMERGENCIES OF THE POOR.

Now and again a case of hardship appears in the papers in which a poor person is taken suddenly ill and a medical man is sent for who, perhaps after being up the previous night and at the conclusion of a hard day's work, declines to attend. A pathetic instance came before Mr. Baxter the other day at Whitechapel in which a medical practitioner refused to go even for a half-crown that had to be borrowed before it could be offered to him, and in the end the patient died before assistance could be procured. Mr. Hume was sent for at 1.30 A.M. On arrival the patient was dead, he thought from syncope due to indigestion and a weak heart. But why blame a medical man or treat him as if he were responsible for such a state of things? Mr. Hume told the coroner he could name at least fifty cases in which he had been called out in the middle of the night and never received a penny. This is the real scandal. Is it any wonder, in such circumstances, that he and others had come to a decision not to attend private patients unless they were paid. To paupers he always went, whether they had an order or not. The public must charge itself with the scandal of such cases. It is high time a night medical service for the poor were organised. Provision could surely be made against its abuse by those who can afford to pay.

VACCINATION AND SMALL-POX STATISTICS.

THE thirty-eighth annual report of the Registrar-General for Scotland, giving the vital statistics for 1892, contains also the twenty-eighth annual report, by Dr. Blair Cunynghame, of the vaccination of children born in Scotland during 1891. The returns show that of the 126,076 children born in Scotland 107,482, or 85·251 per cent., were successfully vaccinated. In 2637 cases vaccination was postponed. Of 549 cases certified as "insusceptible" to vaccination in one the certificate was to the effect that the child was insusceptible in consequence of already having had small-pox. 12,293, or 9·75 per cent., of the children born died before vaccination, and 3115, or 2·471 per cent., were removed from the district in which they had been born and were thus lost sight of or otherwise unaccounted for. The proportion of cases successfully vaccinated is 1·404 per cent. below the average for the last ten years. Mr. J. H. Gornall, the medical officer of health of Warrington, has issued an analytical statement of the cases of small-pox arising in that town from July 25th, 1892, up to the end of last February. During this period there were 557 cases and 58 deaths. Of these, 489 had been vaccinated, of whom 29 died, 61 had very severe attacks, 169 moderately severe and 230 mild attacks. There were 63 unvaccinated persons, of whom 24 died, 27 had very severe, 8 moderately severe and 4 mild attacks; but of these 4, 2 had had small-pox before and 2 were vaccinated a few days after infection. Vaccination was "doubtful" in 5 cases, all fatal. As regards the age incidence of the fatal cases, there died under ten years, 13, of whom 12 were unvaccinated and in 1 vaccination was "doubtful." From ten to thirty years there were 16 deaths (vaccinated, 7; unvaccinated, 8; doubtful, 1). At ages thirty and upwards there were 29 deaths (vaccinated, 22;

unvaccinated, 4; doubtful, 3). It is remarked that the "doubtful" cases were probably all unvaccinated. The effect of revaccination in protecting from the disease seems to have been strikingly proved. "Seventeen thousand persons were done during the panic which occurred last year; of these, not a single one has taken small-pox." Mr. Gornall concludes his statement with an urgent advocacy of compulsory revaccination, which, he says, would not only prevent small-pox, but obviate the great expense to the community which epidemics entail.

INQUIRIES CONCERNING ACCIDENTAL DEATH IN SCOTLAND.

IT will be seen from our Parliamentary columns that the Lord Advocate is preparing a Bill to provide for inquiries similar in scope to the coroner's inquest in England to be conducted in cases of accidental death in Scotland. The subject is one in which we have long taken a lively interest, and, indeed, we have had it in mind to institute an inquiry into the Scottish system of dealing with such matters for the purpose of elucidating and directing public attention to a subject that seemed to us to call for inquiry. Possibly the Bill in question will meet the objects we had in view, and we await with a good deal of interest further information on the subject. We cannot help thinking that in some respects the absence of the coroner's inquest or some other similar form of inquiry in Scotland is to be regretted.

THE METROPOLITAN WATER-SUPPLY.

FROM a statement made by Dr. E. Frankland in his report on the analyses undertaken by him during the month of February, on behalf of the Local Government Board, it appears that the sample of water drawn from the mains of the Grand Junction Company contained the highest proportion of organic carbon and that of the Kent Company the lowest. The waters of the Southwark and Vauxhall and Lambeth Companies exhibited the deepest average tints of brown. Samples of the water of the former company were the subject of a special collection on certain dates. They were reported by Dr. Frankland as exhibiting the characteristics of flood water as respects colour and percentage of organic elements present; the sample taken on Feb. 6th was, moreover, inefficiently filtered. Professor Crookes and Dr. Odling report that as a result of the excessive rainfall of the month the condition of the metropolitan water-supply during February, though not unsatisfactory for the period of the year, was found to compare somewhat unfavourably with that manifested in January. The quality of the water-supply is bound to undergo variation, and the knowledge of this fact should treble the zeal of those upon whom we trust for the efficient treatment of the water by filtration; but it will be seen from Dr. Frankland's report that occasionally the filtration of some of the samples was unsatisfactory. It cannot be too strongly urged upon the various companies that efficient filtration is of the utmost importance, and that their responsibility in this respect is of a very grave nature, more especially at a time when cholera is only too likely to threaten an invasion of our shores.

RETIREMENT OF DR. ANDREW.

THE resignation by Dr. Andrew of the post of physician to St. Bartholomew's Hospital and his retirement from active professional work in London will be learnt with regret, not only by many generations of St. Bartholomew's Hospital men, but by the profession at large. For many years Dr. Andrew has held a high position amongst London physicians, and his services to the hospital with which he has so long been connected cannot be overrated. The first post which he held at St. Bartholomew's Hospital was that of Demonstrator of Morbid Anatomy, to which he was appointed in 1861, and almost at the same time he became Warden of the College. In 1864, upon the resignation of Sir George Burrows and the promotion of Dr. Kirkes to be full physician, he was elected assistant physician, and five years subsequently he was promoted to be physician upon the death of Dr. Edwards. In 1868 he became Lecturer on Medicine in the Medical School, which office he held for many years, but it is as a clinical teacher that he will be best remembered. As a teacher at the bedside Dr. Andrew had few superiors, and he most ungrudgingly devoted much time and untiring energy to the instruction of his clinical clerks and other pupils. His services were also freely given to the Royal College of Physicians, where, besides being censor, he held the posts of Lumleian Lecturer in 1884 and Harveian Orator in 1890. In addition to his appointments at St. Bartholomew's Hospital, Dr. Andrew was for a long time connected with the Royal General Dispensary, with the City of London Hospital for Diseases of the Chest, and with Christ's Hospital. He will be followed into his well-earned retirement by the best wishes of his numerous professional friends and especially of old St. Bartholomew's Hospital men, amongst whom he is deservedly regarded with the highest esteem and respect.

PREVALENCE OF FEVER.

NEARLY 1200 cases of scarlet fever were notified in the chief towns of England and Wales during the week ended April 8th, showing a definite increase. More than one-third of these were notified in London alone, the chief other towns which contributed cases being Sheffield, Burnley, Liverpool, Manchester, Birmingham and Leicester. Some 300 cases of diphtheria were reported at the same time, the metropolis furnishing considerably more than half, Cardiff, Manchester and West Ham coming next. The metropolis contributed less than one-third of the cases of enteric fever, which was unusually prevalent in no place but Liverpool. The mortality in London from enteric fever was below the average, from scarlet fever and from diphtheria above the average. The fever hospitals contained some 2300 cases, an increase on the mean of the previous three weeks. With regard to local outbreaks in the country, scarlet fever is reported to be spreading at Newport by reason of persons leaving infected premises to perambulate the town, and at Glasburn, where school attendance has been a prominent factor in its causation and spread. Measles are also specially prevalent in the Ashton rural sanitary district, where the schools have been closed, whilst at Cardiff the long-continued endemic prevalence of this disease is ascribed by the health officer mainly to the influence of schools. It is unpleasant to learn that our neighbours in Paris have had to cope with an epidemic of typhus fever in the prisons of the Prefecture. No less than 53 cases, with 18 deaths, have occurred. Such a state of things is a sanitary scandal at the present day and reminds us of the state of our own prisons before the time of Howard.

SAVAGE RACES AND THE DRINK TRAFFIC.

THE conditions of our intercourse with uncivilised races have of late years undergone marked variation, especially in one important particular. It has long been clearly recognised by all educated and disinterested persons that so surely as a cultured European people comes to control the destinies of some savage tribe, so does the vice of drunkenness accompany and corrupt its refining influence. It is now further acknowledged that the restriction of this vice is, in the circumstances, a matter of international duty. We need have no difficulty in understanding the meaning of this fact. A tendency to excess, natural no less to the savage than the civilised man, acquires in the case of the former a greater influence from other associated conditions. It is to a much less extent resisted by habits of labour or checked by the historic warnings of experience. Alcoholic indulgence in this case

recognises little or no method and knows no antidotes, but usually runs riot in a constitution unprotected by previous contact, at least with that particular toxic agent. It will be said that some indigenous races have long been familiar with the use of one or other form of native spirit. We admit this, but the admission does not materially affect the question at issue. Under the influence of civilisation facilities of manufacture, exchange and adulteration are so greatly increased, and the whole course of life so altered, as to allow of no real comparison between the effects of alcoholism under primitive and under civilised conditions. If therefore, as most unprejudiced persons will allow, the case for some form of restrictive legislation in European communities is a strong one, it is clearly far stronger when we have to deal with savage races. The Brussels Act of 1890-91 is one practical assertion of the truth of this statement. The existence amongst ourselves of a committee of prevention is another. Some idea of the purpose and the accomplished work, as well as the present requirements of this association, may be gained from the perusal of a circular lately issued by its chairman, the Bishop of London. Our readers, we feel certain, will agree with us that this moderate and forcible appeal for assistance in an undertaking so worthy of it cannot fail to elicit a generous response on the part of the public.

PHYSIOLOGICAL EFFECT OF MAGNETS.

MAGNETISM and electricity in their medical aspects have a peculiar, and too often unpleasant, interest because of the halo of mystery which surrounds them. A recent paper in the *New York Medical Journal* by Dr. Peterson and Mr. Kennelly is an attempt to throw some light on the subject of the physiological effect of magnets of great power placed at the disposal of the writers at the Edison laboratory at Orange, New Jersey. It was found that blood placed on slides, covered with a cover-glass and subjected to the influence of a powerful magnet failed to show the faintest trace of polarisation movement or vibration. The same held good of the living ciliated epithelium taken from the pharynx of a frog, and it was also found that the circulation in the web of a frog's foot observed under a high power failed to show any sign of being influenced. Benedikt has stated that magnetism "increases the resistance to conduction in motor nerves" and so causes paralysis. No effect at all was observed on a dog placed in a cylinder and subjected for five hours to a magnetic field of intense power. Five men, the observers themselves amongst the number, were also exposed to trial. Sphygmographic tracings taken continuously during the *séance* showed no irregularity of the pulse, and this in spite of the making and breaking of the enormous magnetic influence during the observation. The knee-jerk, also tested continuously, showed absolutely no change, nor did any one of the five experience any unusual sensations which could be attributed to the magnetism. Another series of experiments also had a negative result, and the conclusion reached was that the human organism is in no way appreciably affected by the most powerful magnet known to modern science, either as regards circulation, ciliary or protoplasmic movements or sensory or motor nerves. The writers therefore express the opinion that the ordinary magnets used in medicine have a purely suggestive effect and would be equally serviceable if made of wood.

THE PREVALENCE OF SMALL-POX.

DURING the past week the cases of small-pox have been increasing in some centres. In London this is especially striking, the numbers notified rising to 154 from 99 in the previous week, and the cases being distributed in all parts of the metropolis. There are now more than 400 cases under treatment in the hospital ships. It has also increased considerably at Leeds, where additional isolation accommodation has had to be provided; at the same time, there is abatement of the disease in other parts, and comparatively few fresh centres are reported. In Scotland cases are reported at Aberdeen and Perth, whilst there is a gratifying decline to note in Glasgow. An interesting report has been issued by Dr. John McVail, medical officer of health for Stirling and Dumbarton, of an outbreak at Arrochar and Row, near Glasgow, in December and January. A tramp from Ardlin arrived at Glasgow on Dec. 26th. He had come from Edinburgh and had been staying in a hut at Ardlin, which was also occupied by a number of navvies employed on the new West Highland railway works. As soon as this fact came to the knowledge of the medical officers steps were taken to disinfect the hut and to watch its inmates for a fortnight. Three of them developed the disease and the hut was converted into an isolation hospital, which in the course of January received additional cases from Ardencaple near Helensburgh. Revaccination was freely performed upon the navvies, and this, together with the prompt isolation of the cases, doubtless prevented a spread of the outbreak. It is noted that of the nineteen inmates in the Ardlin hut, who were all exposed to infection, three had previously had small-pox, four had been either revaccinated or their primary vaccination had been performed subsequently to the age of twelve years. Of the remainder—who were all vaccinated—none of those who had more than one vaccination mark were attacked. "Of the six who had one mark two were attacked, and of the two who had no marks both were attacked and one died."

PROFESSOR REDFERN, M.D., F.R.C.S.

WE understand that Dr. Redfern, who has been Professor of Anatomy and Physiology in Queen's College, Belfast, since 1860, is shortly about to resign his chair. Under a new arrangement the professorship will be divided and there will be two appointments—a Professor of Anatomy and a Professor of Physiology.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Rabl-Rückhard, Titular Professor of Surgery, has been obliged to abandon his summer course of lectures on account of ill-health.

Breslau.—Dr. Ferdinand Pax, Custos of the Berlin Botanic Garden, has been offered the chair of Botany in succession to the late Dr. Prantl.

Leipsic.—Dr. Albert Landerer, Extraordinary Professor of Surgery, has been offered the charge of the Carl-Olga Hospital at Stuttgart.

Lille.—Dr. Lapersonne, Professor of Clinical Ophthalmology, has been appointed Dean for a term of three years.

Moscow.—Dr. Eltsinski has been promoted to the Ordinary Professorship of Special Pathology and Therapeutics, and Dr. Golaboff has been appointed Extraordinary Professor of the same subjects.

Munich.—Dr. Mollier has been recognised as *privat-docent* in Anatomy.

Rostock.—Dr. Uffelmann, Extraordinary Professor of Hygiene, has been appointed Honorary Professor.

St. Petersburg (Princess Helena Institute).—Dr. Zamshin has been appointed Professor of Midwifery.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.

THE deaths of the following distinguished members of the medical profession abroad have been announced:—Dr. Siegesmund Hantke (Sanitary Councillor), one of the oldest practitioners at Berlin.—Dr. Wegscheider, another well-known and much respected Berlin practitioner, who, together with Dr. Karl Mayer, founded the Gynæcological Society there.

THE central committee of the International Medical Congress to be held at Rome in September have received the reports of Professor Giulio Fano, who was charged with a special mission to the Viceroy of India, and of the General Consul of Italy, who was authorised to support the representative of that country at the Congress. The receipt of these reports has determined the central committee to devote a part of the section of Hygiene to the discussion of cholera and quarantine regulations. It has been proposed that a special commission should be appointed to gather information for the use of the section, that Professor Cunningham should be asked to preside over the commission, and that Professor Koch should be invited to assist in its deliberations.

THE favour which Eastbourne has obtained in the eyes of visitors to our southern coasts may justify a few remarks on its meteorological conditions during the past year. Some items of the observations, which are published by authority, may be quoted. The mean temperature for the whole year was slightly above the average. The amount of bright sunshine was 1805·1 hours, an excess of about 169·7 hours above the quinquennial average. As to the rainfall, departure from the average was not remarkable, save in the months of September and October, when the rainfalls were phenomenal, not at Eastbourne alone but in the country generally.

THE following further appointments have been made in Owens College, Manchester, in the Department of Surgery: Lecturer in Practical Surgery: G. A. Wright, Esq., M.B., F.R.C.S., Assistant Surgeon in the Manchester Royal Infirmary. Lecturer in Operative Surgery: F. A. Southam, Esq., M.B., F.R.C.S., Surgeon in the Manchester Royal Infirmary. Assistant Lecturer in Surgery: William Thorburn, Esq., M.D., F.R.C.S., Assistant Surgeon in the Manchester Royal Infirmary.

A CONVERSAZIONE will be given by the Medical Society of London at their rooms, Chandos-street, Cavendish-square, on Monday, May 1st. An Oration will be delivered by Professor W. Mitchell Banks, M.D., F.R.C.S., on "Physic and Letters," at 8.30 P.M., after which there will be a reception by the President. Music and "smoking" will form features of the entertainment.

THE members and friends of the Guy's Hospital Clubs' Union will meet on Wednesday, May 3rd, to celebrate the opening of the Clubs' Union ground and pavilion at Honor Oak Park. Cricket and lawn-tennis matches will be played between past and present students and other entertainments will be provided.

AT the annual meeting of the British Dental Association recently held at Birmingham during Easter Week it was proposed that the next annual meeting should take place about the same time in 1894 at Newcastle-on-Tyne. Hitherto the Association has held such meetings in the month of August.

MR. S. J. Hutchinson has been elected President of the Representative Board of the British Dental Association in succession to Mr. F. Canton, whose term of office has expired.

THE *Hochschulnachrichten* says that the German Empire, as stated in the budget for the year 1892, disbursed nearly £725,000 amongst its twenty-two Universities, as compared with £300,000 in Austria-Hungary and £450,000 in France.

THE members of the Volunteer Medical Association will hold their annual meeting at 20, Hanover-square, W., on Wednesday, the 26th inst.

The Times announces that a telegram has been received from Christiania stating that the Norwegian Government has forwarded to London for presentation to Lord Rosebery an official refutation of Consul Mitchell's report on the Gothenberg system.

Sir George Buchanan, M.D. Lond., F.R.C.P. Lond., F.R.S., and Mr. Ramsay Heatley Traquair, M.D. Edin., F.R.S., on Saturday last received the honorary degree of LL.D. of the University of Edinburgh.

THE death of Dr. John Drummond McGavin is announced from Paris.

CHOLERA.

CURRENT NOTES, COMMENTS AND CRITICISM.

FROM Berlin we learn that great preparations are being made for coping with this disease in the event of any fresh outbreak. Cholera stations are to be opened shortly on the Vistula. It is reported also from Vienna that cholera continues to spread in Eastern Galicia, close to the Russian frontier, and that the sanitary inspection of all travellers coming from Russia has been ordered. The fatal cases in Eastern Galicia, which numbered only six a week a short time ago, have more than doubled of late and several cases have also been reported in the Province of Bukovina. The official chronicle from St. Petersburg of cases and deaths in Russia has now reached us. It is known that the disease, although it became much less prevalent during the winter, nevertheless continued to prevail to some extent, and since then it has increased and extended itself. The latest official bulletin shows that Podolia and Ufa are the provinces chiefly affected by the epidemic. In the former 460 cases and 120 deaths occurred from March 13th to March 27th, while in Ufa 113 cases and 35 deaths were registered from March 27th to April 13th. The disease appears to be of a sporadic character only in the rest of the Empire, as the total number of cases outside these provinces given in the bulletin is only 15 with 7 deaths.

As regards France, the Government authorities appear to be officially reticent, and we have really no accurate information excepting that of our special correspondent as to the distribution of the disease and the extent of its prevalence at the present time. It frequently happens that when cases are reported in France and other countries on the Continent, that the disease has already been in existence at some particular town or village for some time beforehand. A telegram from Vannes, in the department of Morbihan, states that cases of cholera continue to occur there and at Lorient, the deaths averaging from four to six daily. An outbreak of choleraic disease has also arisen in the lunatic asylum at Quimper, or Quimper-Corentin (Finistère). Strict precautions have, it is said, been taken to isolate the outbreak, and up to the present time no cases have been reported in the town or the department. *En passant*, it may be remarked that lunatic asylums, prisons and hospitals have been found, as a matter of experience, to be very vulnerable places during epidemics cholera, the disease having sometimes first of all appeared in such institutions, and occasionally has even been limited to them and has not extended to the outside population. There are several reasons possibly why this should be so. In the case of lunatics they are generally persons of weak and defective circulation, and feeble physically as well as mentally; and institutions or places where individuals are not only aggregated together and live in community, but where more or less overcrowding is likely to occur and the rooms are continuously occupied, afford very favourable conditions for the prevalence of cholera or of any other disease of an epidemic nature.

It may be mentioned here incidentally that the public health of Paris at the present time appears to be very unsatisfactory. Influenza prevails very extensively. There is hardly a family in Paris which has not one of its members laid up with that disease. Typhus fever is also prevalent, in the gaols especially. The disease, according to Dr. Monod's statement at the Board of Health, was imported

into Paris from Lille and Amiens, the night refuge in the latter town especially having been discovered to be a centre of the disease.

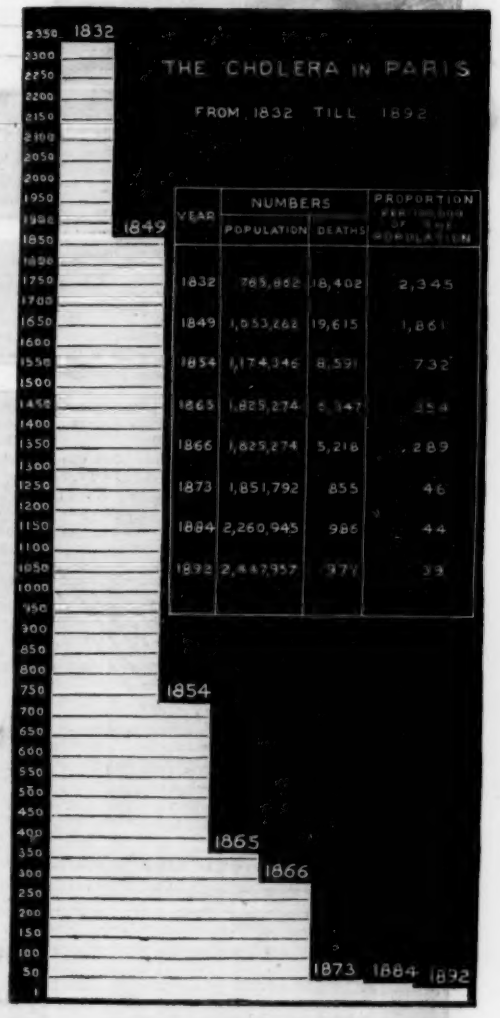
Apropos of M. Haffkine's expedition to India and of his exposition in this country of his method for conferring immunity from cholera by the "vaccination" procedure, it does not seem to find much favour with medical authorities in India, if we may take the *Indian Medical Gazette* as the exponent of their views. At any rate, our contemporary subjects the theory on which the procedure is assumedly based to a searching and critical examination, and asks whether "cholera bacillus" and "comma bacillus" are convertible terms, and whether, amongst the many diverse micro-organisms to be found in the evacuations of cholera patients, the final selection of the comma bacillus as a true *contagium vivum* of cholera is so justified by what we know of it as to place its acceptance beyond all question. Whatever hold this view may have taken of the professional mind in Europe generally, there can be no doubt that in current German literature the comma bacillus is regarded as the cholera bacillus and the expressions are consequently used indifferently. The *Indian Medical Gazette* does not by any means, however, accept this view as having been proved or demonstrated up to the present time. On the contrary, the difficulties in accepting it are, it alleges, not far to seek, and they are considerable. In the first place, the first of these organisms selected by Koch himself in Egypt as the cause of cholera was a straight bacillus, which he subsequently abandoned, without a word of explanation, in favour of the comma bacillus he discovered in Calcutta. That the last-named bacillus is not invariably present in the stools of cholera patients is admitted. In certain seasons of the year cases of cholera appear in India in which a daily search for comma bacilli fails to find them. On the other hand, those found in cholera stools do not invariably present characters by which they can be distinguished from similar organisms found in other related pathological conditions of the bowel. There are apparently endless varieties of these bacilli, some of which do not, and some of which do, conform in their behaviour to tests like typical comma bacilli, although, as in the case of the outbreak of epidemic diarrhœa caused by putrid meat on board the ship *Crofton Hall*, the comma bacilli differed less from those found in true cholera than these do amongst themselves. Moreover, the inability of the comma bacillus to produce the disease as tested by various experimenters and (with our knowledge of the destructive effect of acids and the gastric juice on the comma bacillus) requiring the assumption that there must not only be a general diffusion of the bacillus, but a coincident epidemic of alkaline dyspepsia, to give rise to an epidemic of cholera are opposed to the view that this micro-organism is the really essential factor. The natural history of cholera also implies that if its cause be indeed a micro-organism it must be one of strong, and not feeble vitality like that of the comma bacillus. We have only attempted briefly, and, in a cursory manner, to give the drift of the article in our contemporary, but it cannot fail to be of interest to readers in this country to know what members of the profession in the so-called "home of cholera" think of the present bacteriological position. They do not regard the comma bacillus and the cholera bacillus as convertible terms, and consequently consider the experiments of M. Haffkine as being interesting, no doubt, but as having little real bearing on the cholera question.

CHOLERA IN FRANCE.

(FROM OUR SPECIAL CORRESPONDENT.)

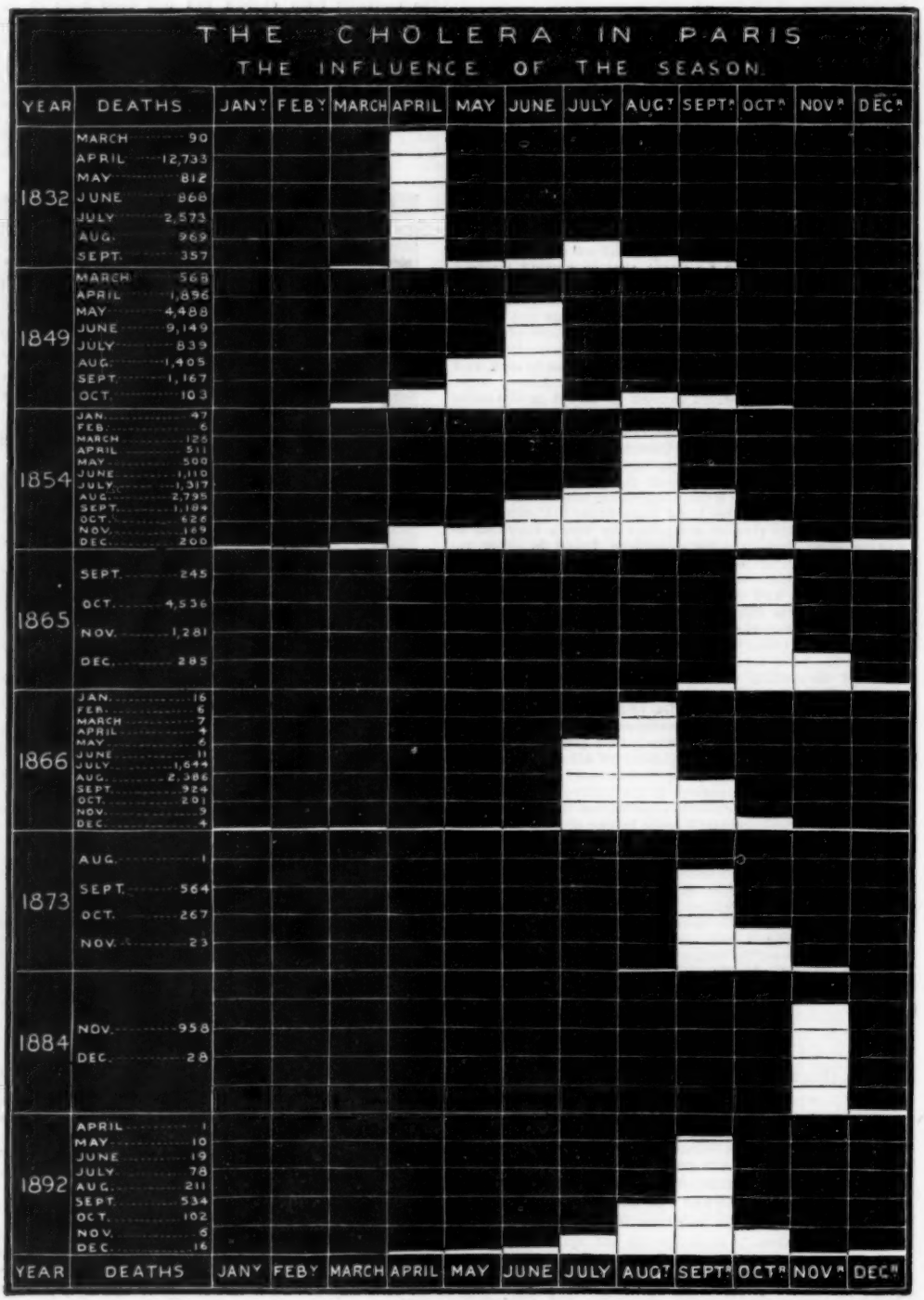
The Eight Cholera Epidemics of Paris.

MUCH that has been said in the course of these articles may tend to create alarm and anxiety. The existence of cholera in a great number of places, and especially in the ports nearest to England and with which we carry on a continuous and brisk trade, has been forcibly illustrated and described. Cholera is so dangerous and spreads so rapidly that there is every need to realise in good time and to the fullest extent all the dangers of the situation. This, however, nowise justifies any excessive and exaggerated alarm. On the contrary, everything indicates that cholera is becoming less and less dangerous. Certainly, localities have been visited and described which, by reason of bad sanitation, seem to invite cholera epidemics, and, though the mortality from cholera has not been high in such places if one takes towns or districts as a whole, it has been very high in certain particular villages, localities or streets. Thus if cholera does not seem so dangerous to this as it was to the previous generation the lesson taught by that disease is none the less important; and now, as then, good sanitation is the best and probably the only true preservative. But if there is still a deplorable absence of good sanitation in many towns and districts, especially on the Continent, there is nevertheless a general and widespread improvement. Thus



it is that in many places the epidemics succeeding each other show a marked decrease in gravity. Nowhere is this improvement more evident than at Paris, and this is all the more important as Paris was the centre of the present epidemic. The cholera broke out in Paris long before what appeared to be another and totally different cholera epidemic reached the south-eastern frontiers of Russia. Nothing can be more encouraging than the study of the cholera epidemics in Paris.

Cholera, it will be remembered, first came to France in 1832. It was brought over from England to Calais, and the first case was recorded on March 15th of that year. There were no railways at that date, yet the cholera took only eleven days


THE CHOLERA IN PARIS
THE INFLUENCE OF THE SEASON.
YEAR
DEATHS
JAN.Y
FEB.Y
MARCH
APRIL
MAY
JUNE
JULY
AUG.T
SEPT.R
OCT.R
NOV.R
DEC.R
1832
MARCH 90
APRIL 12,733
MAY 812
JUNE 868
JULY 2,573
AUG. 969
SEPT. 357
1849
MARCH 568
APRIL 1,896
MAY 4,488
JUNE 9,149
JULY 839
AUG. 1,405
SEPT. 1,167
OCT. 103
1854
JAN. 47
FEB. 6
MARCH 126
APRIL 511
MAY 500
JUNE 1,110
JULY 1,317
AUG. 2,795
SEPT. 1,184
OCT. 626
NOV. 169
DEC. 200
1865
SEPT. 245
OCT. 4,536
NOV. 1,281
DEC. 285
1866
JAN. 16
FEB. 6
MARCH 7
APRIL 4
MAY 6
JUNE 11
JULY 1,644
AUG. 2,386
SEPT. 924
OCT. 201
NOV. 9
DEC. 4
1873
AUG. 1
SEPT. 564
OCT. 267
NOV. 23
1884
NOV. 958
DEC. 28
1892
APRIL 1
MAY 10
JUNE 19
JULY 78
AUG. 211
SEPT. 534
OCT. 102
NOV. 6
DEC. 16

to reach Paris from Calais. This disease does not travel any quicker now, though it has the aid of steam. In the month of March there were 90 deaths from cholera in Paris. Then came the terrible month of April, unique in the history of that disease, when no less than 12,733 persons died in Paris alone. What this means it is difficult now to realise, for it must be borne in mind that Paris was not half—indeed, it was barely more than a quarter—its present size. The population, now estimated at 2,447,957, amounted in 1832 to only 785,862. A new epidemic disease is generally most fatal the first time it invades a country. This may perhaps account for the frightful rapidity with which cholera spread and for the havoc wrought, though it came in a month which subsequent observations show to be unfavourable to an extensive spread of the disease. Cholera developed quickly, but ceased as quickly. In May there were but 812 deaths, in June 868; and in July the alarm had subsided. Fugitives returned to Paris and there was consequently a slight recrudescence, so that there were 2572 deaths in July. In August the number again fell and in September the epidemic ceased completely. Altogether, during the seven months there were 18,402 deaths from cholera, and this is equal to 2345 deaths per 100,000 of the population.

Seventeen years elapsed before cholera returned to Paris. Again the mortality was terribly high, but nevertheless there was a notable improvement. This may be due to the fact that this was no longer the first visitation, and also to a certain amount of sanitary improvements having been accomplished unwittingly. A few very bad districts had been demolished, and there were a little more light and air in the town. Hence it comes that though the population had increased to 1,053,262 there were not more than 19,615 deaths. This gives a smaller proportion than did the previous cholera epidemic—namely, 1861 per 100,000 inhabitants. One must wait, however, till 1854 to see the great effect that even unconscious sanitation may accomplish. In 1837 the sewers of Paris measured in all 76,500 metres. In 1854 their length had more than doubled—there were 155,000 metres. The Republic of 1848 had sought to establish the sanitary organisation of France by creating the Consultative Committee of Public Hygiene of France under the Minister of Commerce. This, in 1889, was placed under the Minister of the Interior. Then came the Second Empire in 1852, which was obliged to find at any cost plenty of occupation for the working classes. Thereupon slum after slum disappeared. The pestilential Quartier des Moulins, near the Louvre, was swept away and what was subsequently known as the Haussmannisation of Paris had already begun. Thus, when cholera revisited Paris in 1854, it no longer found so propitious a ground for its development. The mortality was not half so high. Out of a population of 1,174,346 inhabitants there died 8591 persons, or 732 per 100,000.

After this one emerges from the period of what may be termed "unconscious sanitary progress," when improvements were effected without the benefits likely to result being fully realised or foreseen. The necessity of pure water and plenty of fresh air was at last appreciated, but before the value of good drainage could be demonstrated two more cholera epidemics occurred—those of 1865 and 1866. But here, again, the improvement was most marked and the mortality was reduced to 354 per 100,000 in 1865 and to 289 per 100,000 in 1866. After this lesson the building of sewers was pushed forward with great activity; notable sanitary reformers, such as, for instance, M. Durand Claye, came to the front, and the next cholera epidemic gave evidence of the greatest proportionate reduction of mortality as yet effected. The deaths were reduced by five-sixths—namely, to 46 deaths per 100,000 in 1873, though there had been 289 deaths per 100,000 in 1866. The proportion in 1884 was 44 and last year it was 39 per 100,000 inhabitants. But this great falling off in the fatality caused by cholera at Paris is better described by the accompanying diagram than by words. The table gives the actual figures; the white diagram, drawn to scale, shows by optical demonstration the difference between the mortality of 1832 (2345 deaths per 100,000 inhabitants) and of 1892 (39 deaths per 100,000). With regard to the latter figure it only represents the deaths within the walls of Paris itself. Had the suburbs been added the number of deaths would be 1878 instead of 977, and, for all practical purposes, the suburbs have so grown that they constitute an integral part of Paris, and this was not the case at the time of the previous epidemics. From a general sanitary point of view I take it, therefore, that though the epidemic of 1892 shows a marked improvement when compared with that of 1866 it was, if anything, rather worse than those of 1873 and 1884. The second diagram illustrates the influence of seasons on the cholera epidemics of Paris. In this diagram no difference is made between the various epidemics, but only between the various months of each epidemic, so that one may see during which months the epidemics prevailed and when they reached their maximum development. Putting the eight epidemics together, one obtains the following total number of deaths:—

April	15,145	October	1,299
June	11,157	November	1,165
August	7,567	March	791
July	6,451	December	248
May	5,816	January	63
September ...	4,730	February	6

From this table one can infer, not that April and June are the worst months, but that the epidemics of 1832 and 1849 were the worst epidemics. It is more instructive to note that during the eight Paris epidemics the maximum mortality was attained once in April, once in June, twice in August, twice in September, once in October and once in November. It is consequently August and September—the end of the summer—which seem to be the most fatal season. This opinion is confirmed by the experience of Brussels, as shown in the diagram published in THE LANCET of Dec. 17th last. There it will be found that during seven epidemics the maximum mortality was attained three times in the month of August, and these were the most severe outbreaks. In the four other epidemics the mortality was very slight, but in each case the month of October was the most fatal.

THE ASSOCIATION OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A MEETING of the committee of the Association of Fellows of the Royal College of Surgeons of England was held at 5 P.M. on April 12th. Mr. George Pollock, the President, occupied the chair and the meeting was well attended.

The minutes of the previous meeting were read and confirmed. The Honorary Secretary read letters from Mr. C. N. Macnamara and Mr. Oliver Pemberton in reply to communications which he had sent for the purpose of ascertaining whether it was their intention to offer themselves for re-election to the council of the Royal College of Surgeons in July next. Mr. Macnamara's reply was to the effect that he would be willing to stand again if it was the wish of the committee that he should do so, whilst Mr. Oliver Pemberton intimated that he intended to come forward as the representative of the Birmingham School of Medicine and for other reasons. With regard to Mr. Macnamara, it was unanimously agreed that the honorary secretary should write and ask him to stand and at the same time convey to him the assurance of the committee that they would do their utmost to secure his re-election. After some discussion with reference to the candidature of Mr. Oliver Pemberton the following resolution was unanimously agreed to: "That the honorary secretary be requested to write on behalf of the committee and say that the committee would naturally desire to support him as a former and prominent member of the Association, but would be glad to know whether he is prepared to further the policy of the Association in endeavouring to secure for the Fellows of the College a consultative voice in the affairs of that institution and the election of its president."

The subject of Mr. Mayo Robson's candidature was then brought under the notice of the committee, and a resolution was passed that, under existing circumstances, he should be requested to offer himself as a candidate for the council in July, and that in the event of his acceptance of the invitation he should receive the support of the committee. Mr. Mayo Robson would have been a candidate last year, but was prevented at the last moment from coming forward in consequence of a technical difficulty in regard to the papers which candidates have to send in to the Secretary of the College.

The Honorary Secretary reported that no application for subscriptions to the Association had been issued to members since November, 1891; and it was therefore decided that notices should be sent out forthwith asking the members to remit the sum of 5s., being the amount due for the two years' subscriptions. The next meeting of the committee was fixed for Wednesday, April 26th, and the committee then adjourned.

EGYPTIAN VITAL AND MORTALITY STATISTICS.

WHATEVER views may be taken regarding the expediency of British interference in Egypt, the facts remain that we have now been in occupation of that country for a decade and that the ostensible reason for our interference was the promotion of reform. This being so, it may be advantageous to inquire what has been done under our guidance and control towards improving the sanitary condition of the people. The question is a broad one, and it is to be feared that the answer, if complete, would in the main be unsatisfactory. In the present article it is proposed to view the matter in connexion with the vital and mortality statistics of the Egyptian Sanitary Department in so far as these are accessible.

A False Foundation.—The statistical reports published by the sanitary administration being founded on an entirely untrustworthy census, taken in 1882 during the disturbances caused by the rebellion (so-called) of Arabi Pasha, are not as interesting as they would be did they rest on an accurate basis; but they furnish, nevertheless, a considerable amount of valuable information and reflect great credit on Dr. Engel Bey who, amidst many difficulties and with very inadequate assistance, first undertook the reorganisation of this most essential department in 1886.

Bulletin Hebdomadaire. — A weekly statement under this title, consisting of four pages, appears regularly as a supplement to the *Journal Officiel*, and, in addition to meteorological tables, gives minute details of the mortality in Cairo and Alexandria, arranged according to age under thirty-one well-chosen groups of diseases, together with a variety of miscellaneous intelligence referring to foreigners as well as natives. The fourth page of the *Bulletin* is chiefly devoted to a summary of the mortality statistics of thirty-one principal towns having an aggregate population (reputed) of 1,002,961; and it contains also a statement of the infectious diseases which have been reported during the week throughout the whole country.

Increase of Population.—During the year 1892 there were 59,697 births and 47,972 deaths (natives only) in the thirty-one towns, giving rates per 1000 of 59·5 and 47·8 respectively. It is evident that the latter figures are much too high, but till an accurate census be taken it is impossible to say what the ratios should really be. If it is assumed that the birth-rate in Egypt be 40 per 1000 the population of the thirty-one towns must amount in round numbers to 1,500,000, with a death-rate of 32 per 1000; and if we assimilate the birth-rate to the English standard a population of about 2,000,000 and a death-rate of 24 per 1000 is arrived at. In London the increase of the population, by reason of excess of births over deaths, is equal to 1·06 per cent. per annum. With a birth-rate of 40 per 1000 in the thirty-one towns the percentage of the increment would be only 0·78; and with a birth-rate of 30 per 1000 it would sink to 0·58, or very little more than half that of London. It is probable, however, that the fertility of the Egyptians is comparatively much greater than ours; and, approximately speaking, it may be said that a birth-rate of 40 per 1000 per annum is about the average in the towns, though in the villages it may be even higher.

The Slaughter of the Innocents.—Adopting 40 per 1000 as an approximate birth-rate, the death-rate in the thirty-one towns falls to 32 per 1000. This represents a high degree of mortality certainly, though not so great as what is generally supposed to prevail. It will be interesting to inquire how this mortality is constituted with respect to age, and for this purpose Dr. Engel's returns afford every facility. Amongst the 47,972 deaths registered in the thirty-one towns, 15,750, or very nearly one-third, were of infants under one year of age, and 12,672 of children aged from one to five years. Taken together the deaths in these two classes amounted to 59 per cent. of the whole. For every 1000 births there were 263 deaths under twelve months of age. In London the proportion is 154 per 1000. During the year 475 children aged less than five years died in comparison with every thousand that were born. Whichever way it be regarded, the infantile mortality was absolutely appalling; and yet, such is the power of custom, the public mind in Egypt was not perceptibly agitated. The year 1892 was not an exceptionally unhealthy one amongst children. On the contrary, the usual low-Nile increase of mortality during the summer months was conspicuously absent in nearly all the towns furnishing returns. Throughout the first quarter influenza swelled the death-rate to a considerable extent, but the incidence of the disease was chiefly amongst adults. Taking the population of the thirty-one towns at 1,500,000, the adult death-rate for the year was only 13 per 1000; whereas for children under five years of age it was within a fraction of 19 per 1000. This dreadful slaughter of the innocents takes place every year in Egypt with such unfailing regularity that it has grown to be looked upon as quite a normal occurrence. The children come into the world, die and are buried, and the Government looks on with folded hands, making no attempt whatever to remedy a state of things which, were it to occur in England in these days, would give rise to such profound emotion in the mind of the public that Ministers would be forced to take measures for the alleviation of the terrible evil.

Infantile Mortality in Previous Years.—The following table shows at a glance the frightful rate at which children die in Egypt and proves conclusively that 1892 was by no means a bad year as far as they are concerned. Taking the average of the three years, it appears that the deaths under five years of age, compared with the births, were as 496 to 1000—that is to say, within a minute fraction of half.

Year.	Births.	Deaths.					
		Under one year.	One to five years.	Total.	Percentage under five years.	Under one year per 1000 births.	Under five years per 1000 births.
1888	57,856	15,305	12,212	43,675	63	264	475
1889	58,006	17,051	14,319	48,312	64	293	540
1892	59,697	15,750	12,672	47,972	59	263	475

In a previous article[1] an attempt was made to indicate the principal sanitary shortcomings in Egypt. It remains now to point out some of the causes of the great infantile mortality.

The reasons why the children die.—Dr. Engel's weekly tables show that the mortality in the thirty-one towns during 1892 was referable to the causes enumerated in the subjoined list:—

Small-pox	288
Measles and scarlet fever	205
Diphtheria and croup	143
Whooping cough	297
"Typhic" fevers—i.e., enteric, typhus, relapsing and bilious	1,052
Pernicious and paludal fevers	467
Dysentery	3,113
Phthisis pulmonalis	2,839
Other infectious and parasitic diseases ...	2,499
All other general diseases	7,212
Gastritis, gastro-enteritis, enteritis and diarrhœa	12,682
Diseases of the liver...	412
Other diseases of the digestive organs	475
Pneumonia	2,000
Other diseases of the respiratory organs ...	7,411
Diseases of the nervous system	4,872
All other diseases	969
Unknown or not declared	503
Accident	456
Crime	77
Total	47,972

The deaths ascribed to gastritis &c. and diseases of the nervous system (convulsions) together amount to 17,554, or considerably more than one-third of the whole. It is extremely probable that nearly all the victims were of tender age, and not at all unlikely that the real cause of the fatality was typhoid fever. The Egyptians are kind parents to their children, and feel the loss when they die just as much as, if not more than, some highly civilised western nations. The excessive infant mortality is in a great measure owing to ignorance. The sick are allowed to eat improper food and drink contaminated water, but so far no one possessing the

[1] THE LANCET, March 4th.

requisite power has attempted to afford enlightenment, though it would be comparatively easy to do so.

Barbers and Midwives.—Every village in Egypt possesses a "sanitary barber" or two and one or more midwives, but these people unfortunately have merely sipped at the Pierian spring, and the amount of knowledge they possess is just sufficient to make them dangerous. The State should unquestionably take this matter in hand.

Sanitary Leaven.—It is unfortunately the custom in Egypt to pay attention only to such reforms as will either bring an immediate return or else redound to the honour and glory of the reformers. Like the rest of the world, the rulers of the land of our occupation are still deceived by ornament and pay little attention to quiet, sober measures, which in the long run would do far more good than mere showy innovations. One or two persons possessing a serviceable knowledge of sanitation and resident in each town or village would soon work wonders towards improving the material welfare and prosperity of the fellahin. The department charged with the duty of organisation would require a budget of about £200,000 at starting, but afterwards this could be greatly diminished. Financiers, no doubt, would open their eyes at such a proposition and call it a fad, and yet, with all due respect to these great personages, it is sound to the core. If England really desires to elevate and improve the people of Egypt she must teach them to regulate their lives in accordance with the rules of hygiene. *Salus populi suprema lex.* A little sanitary leaven is what is required to make our baking a success. The dough has been kneaded and moulded into shape as far as external appearance goes, and there is apparently plenty of flour in the financial mill we have set up; but though the oven is certainly hot enough, still, unless the necessary ferment be added, our Egyptian cake will be both tough and indigestible.

FOG AND VEGETATION.

THE second report presented to the Royal Horticultural Society on "The Effects of Urban Fog upon Cultivated Plants," by Professor Oliver of University College, is a valuable contribution to our knowledge of the subject. The general effect of town fog upon greenhouse plants is that the leaves turn yellow and drop off, and Mr. Watson of Kew states that after a fog bushels of leaves are swept up in the Palm House. Fog appears to be only one of several conditions which produce this effect upon the leaves of plants, which is, so to say, a common evidence of ill-health. One of the most important constituents of London fog is acid, chiefly sulphurous, the greater part of which becomes oxidised into sulphuric. The latter of these has a burning, dehydrating effect upon the tissues, whilst the former has a poisonous effect upon the protoplasm after absorption. There seems a consensus of opinion that the acid and the particles of carbon which settle upon the leaves and choke them are by no means the only, even if they be the most harmful, constituents of a fog. Fog (and be it remembered that we speak entirely of town fog and not of country fog or sea fog, which are both harmless to vegetation) when it settles on glass leaves a deposit which is greasy and sticky and is not removable without considerable friction. This is probably caused by hydrocarbons, the result of the destructive distillation of coal, amongst which are to be reckoned pyridine and phenol. Professor Oliver has experimented with pyridine and phenol; he finds that the vapours of these bodies are most harmful to a great variety of plants and he seems to establish what is tolerably well known to practical gardeners, that the tar-products are amongst the greatest enemies of vegetation. The air of towns is full of these tar-products and the fact that vegetation languishes is not surprising.

The effect of town air on vegetation is by no means a mere academic question, the chief interest of which is for the man of science; it is a practical question of vital importance to the horticultural and agricultural industries, which find their highest development on the outskirts of towns. Few who have not carefully considered the question can have any idea of the capital which has been invested by florists and market gardeners near London in the development of their respective trades. With regard to the florists, those who occasionally see in the papers that startling sums have been given for orchids or other rare plants must, if they think, be aware that the urban florists are capitalists of no mean order, but only those who have been practically engaged in the cultivation of valuable hot-house plants can be aware of the extremely tender and sensitive organisation of many beautiful and rare flowers. Who can think without a pang of London deprived of its floral decorations? It seems, however, as if the floricultural industry must move further from our great metropolitan filth-focus, and with every mile of distance the difficulty of procuring plants will increase.

To a less, but still to a very appreciable, extent the work of the market gardener is being interfered with, and be it remembered that our market gardens fulfil a very important double purpose. They utilise the enormous amount of dung from the London stables and are the great reason of the prompt removal of this material, which otherwise would accumulate and seriously threaten the wholesomeness of every mews and stable-yard; and they are also a most important source of vegetables, fruit, and the commoner flowers. In proportion as the gardens are removed from the markets so will their products become dearer and the difficulties of keeping the town clean will increase.

Truly, this question of town smoke is an important one, and the Royal Horticultural Society is to be congratulated on its endeavours to solve the question by submitting it to scientific experts.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Maldon Rural Sanitary District.—In referring to the water-supply of the various villages in this district, Dr. Thresh points out that in Burnham, the only village where the supply is distributed by mains, the consumption per head per diem has gradually risen from an average of five gallons to one of ten. A scheme has now been adopted for supplying several of the villages in this district with a good and plentiful supply of water. Dr. Thresh predicts that but little benefit will be derived from the Housing of the Working Classes Act in rural districts until the duty of enforcing it is laid upon the county councils. There is no permanent isolation accommodation for the district under consideration, but a hospital-tent, capable of holding six beds, is kept at Maldon. In this connexion Dr. Thresh suggests that the three authorities—those of the Maldon urban, rural and port sanitary districts—should combine for the purpose of erecting a suitable hospital for infectious diseases. When making a periodical inspection of his district Dr. Thresh previously communicates with the guardians of each parish and usually also with the the clergyman and schoolmaster, so that they may know of his visit and bring to his notice any matter requiring his attention. We quite agree with Dr. Thresh that it is very desirable that rural sanitary authorities should possess the power to make by-laws regulating the construction of all wells, and that they should be made applicable to existing wells. There is no doubt great need for some restriction being placed upon the indiscriminate sinking of wells, and we incidentally referred to the subject a short time ago. There were ninety cases of diphtheria in the village of Heybridge during the year, but only one death occurred. An interesting limited outbreak of the disease took place at Bradwell, and Dr. Thresh considers that it was probably due to the carting of London manure and some putrid fish through the village. At St. Lawrence also there were several cases of diphtheria, where the virus of the disease seems to have obtained a footing upon the mucous membrane of throats that had been recently attacked by scarlet fever, and at another village diphtheria and scarlet fever were practically co-existing in the same individual. That these two diseases are frequently found together in the same patient cannot for a moment be doubted, and Dr. Caiger, of the Stockwell Fever Hospital, recently read a valuable paper before the Medical and Physical Society of St. Thomas's Hospital, in which he gave numerous instances of the co-existence of the various infectious diseases in the same individual. The report of the Maldon rural sanitary district is well worth reading, and is an excellent example of the information which a report of this description should contain.

The Parish of Whitechapel.—Mr. Loane, medical officer of health for this district, is also a public vaccinator, and in this latter capacity he expresses an opinion that increased

facilities should be offered to those who prefer to have calf lymph used. During the year 1892, cases of small-pox appeared from time to time in the district, but owing to Mr. Loane's energy in re-vaccinating all those who had been exposed to contagion, in only one instance was a second member of an infected family attacked. A total of 1153 cases of zymotic diseases were separately investigated and disinfected, and in order to assist in carrying out this work, an additional inspector of nuisances was appointed. An apparatus for disinfection by superheated steam has been ordered by the sanitary authority, and it has also been decided to add more cells to the refuse destructor. Mr. Loane does not consider that any advantage would be obtained from transferring the supervision of common lodging-houses from the police to the local sanitary authorities. The general death-rate for the model dwellings within the Whitechapel district was 23·2 per 1000, and that for the whole district 24·7. The infantile mortality was 156 per 1000 registered births. Mr. Loane thinks there will be considerable difficulty on the part of sanitary authorities in properly carrying out the provisions of the Factory and Workshops Act, 1891, in populous districts.

Bilston Urban Sanitary Authority.—Several instances are given in this report of children being discovered desquamating freely from scarlet fever. Two of these cases were attending school at the time of the discovery, and in others, although those affected were detained at home, children from the same house were continuing their attendance at school. Dr. Bailey strongly urges upon his authority the importance of providing a permanent hospital for infectious diseases. Apparently the authority possess some vehicle which does duty for an ambulance, but according to the report, it *is* by no means fitted for the purpose, and entails much unnecessary risk and trouble. There certainly seems to be a widespread impression amongst sanitary authorities that almost any old carriage or van will serve for an ambulance. All must agree with Dr. Bailey when he says, "anyone who has had to undertake the removal of these (infected) cases would realise at once how disagreeable and dangerous the task is," and we can but regret that so few members of sanitary authorities have tried the experience. Had they done so they would no longer be party to the cruel practice of cooping up a nurse, in an ill-fitted and badly ventilated vehicle, with a case of typhus fever or other infectious disease. The infantile mortality in the district under consideration was no less than 219, and in commenting upon this high figure, Dr. Bailey quotes from Dr. Reid's valuable remarks upon the subject of infantile mortality and its relation to female labour contained in his annual report for 1891. The general death-rate of the district was 22·5 per 1000.

Bacup Urban Sanitary District.—The population of this district in the middle of 1892 was estimated at 23,500. There was a general death-rate of 20·34 and a zymotic death-rate of 0·97. The authority have not yet adopted the Infectious Diseases Notification Act of 1889, but Dr. Brown strongly advises them to do so. He also advocates that the excreta from phthisical patients and from children suffering from tuberculous disease of the intestine should be properly disinfected, and he points out that in the case of a death from phthisis a similar precaution should be adopted as regards the walls, floor and furniture. Lastly, Dr. Brown states that, in his opinion, if all the expectorations of phthisical patients were destroyed, the disease would be perceptibly diminished. The infantile mortality of the district was 177 per 1000 births.

Downham Rural Sanitary District.—Mr. Kirkham, after having made a sanitary inspection of his district, reports that there was but one house in it which he regarded as being unfit for human habitation. The water-supply of the district is derived either from shallow wells or the River Ouse, and Mr. Kirkham draws attention to the improbability of obtaining pure water either from the wells or the river. He has advised the authority to make some exploratory borings. Seventy-six cases of scarlet fever occurred during the year, two of which proved fatal. In Watlington scarlet fever and diphtheria were prevalent at the same time, and in four cases the two diseases co-existed in the same houses. Two cases of typhoid fever are attributed by the medical officer of health to the drinking of impure water from the River Ouse. The general death-rate of the district was 17·17, the zymotic death-rate 0·75, and the infantile mortality 126 per 1000 births. Mr. Kirkham very properly refers in his report to the small amount of attention which is given by the sanitary authority to sanitary matters, and he points out that but little progress can be hoped for until this is remedied and the authority discontinue the practice of meeting only for a short time "at the fag end of every alternate meeting of the board of guardians."

Wirksworth Urban Sanitary District.—Mr. Broster, in referring to the Infectious Diseases Notification Act, 1889, states that "the value of this Act to the tape manufacturers here, and the London milk-supply from this district, cannot be over-estimated." In dealing with the disinfection of infected houses the report gives us to understand that in one or two instances the inspector was prevented from carrying out disinfection, but it does not tell us what action was taken to enforce it. We presume that steps were taken under Section 120 of the Public Health Act, 1875. Systematic inspection of the district seems to have been diligently carried out, and the authority are about to apply to the Local Government Board for their sanction to borrow money to execute the new sewerage scheme.

Braintree Urban Sanitary District.—At the time of issue of Mr. Abbott's report a house-to-house inspection of his district was in progress, and we are promised a summary of the results in the next report. In spite of the attention of the sanitary authority having been drawn for years to the danger of the closets being flushed by pipes coming direct from the water main, the practice still largely prevails. The sewers of this district are, according to the report, insufficiently ventilated. There is much jerry-building, no building by-laws having as yet been adopted. The authority possess apparently no isolation accommodation. This does not look like a district which would present a very formidable opposition to the inroads of cholera, and we think the sanitary authority will do well to act upon Mr. Abbott's expression of opinion, who, after referring to the work done by the port sanitary authorities, says, "but it is the duty of all local authorities to take decisive measures to place the districts under their sanitary charge in the best possible position as regards water-supply, drainage &c."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6805 births and 4123 deaths were registered during the week ending April 15th. The annual rate of mortality in these towns, which had been 21·2 and 20·9 per 1000 in the preceding two weeks, further declined last week to 20·8. In London the rate was 20·4 per 1000, whilst it averaged 21·2 in the thirty-two provincial towns. The lowest rates in these towns were 12·8 in Nottingham, 12·9 in Croydon, 13·3 in West Ham, 15·0 in Norwich, and 16·1 in Cardiff; the highest rates were 25·2 in Sunderland, 26·0 in Manchester and in Preston, 27·1 in Liverpool, 27·3 in Blackburn, and 28·4 in Derby. The 4123 deaths included 422 which were referred to the principal zymotic diseases, against 433 and 408 in the preceding two weeks; of these, 122 resulted from measles, 110 from whooping-cough, 64 from diphtheria, 47 from scarlet fever, 42 from diarrhœa, 21 from "fever" (principally enteric) and 16 from small-pox. No fatal case of any of these diseases was recorded in Wolverhampton, Swansea, or Sunderland; in the other towns they caused the lowest death-rates in Croydon, Nottingham, Derby, and Huddersfield, and the highest rates in Leeds, Halifax, Bolton and Preston. The greatest mortality from measles occurred in Portsmouth, Plymouth, Bolton, Preston, Leeds and Newcastle-upon-Tyne; scarlet fever in Bolton; and whooping-cough in Birmingham, Halifax, Blackburn, Preston and Leicester. The mortality from "fever" showed no marked excess in any of the large towns. The 64 deaths from diphtheria included 44 in London, and 4 in Manchester. Four fatal cases of small-pox were registered in Halifax, 3 in London, 2 in Birmingham, 2 in Manchester, 2 in Bradford, and 1 each in Derby, Oldham and Hull; 423 cases of this disease were under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, against 240, 263 and 297 at the end of the preceding three weeks; 156 new cases were admitted during the week, against 60 and 97 in the preceding two weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2026, against 2030 and 2024 on the preceding two Saturdays. The deaths referred to diseases of the respiratory organs in

London, which had been 421 and 400 in the preceding two weeks, rose again to 416 last week, but were slightly below the average. The causes of 77, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Cardiff, Nottingham, Bolton, Bradford and in seven other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Leicester and Liverpool.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·7 and 23·1 per 1000 in the preceding two weeks, declined again to 22·0 during the week ending April 15th, but exceeded by 1·2 per 1000 the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·5 in Leith and 15·4 in Perth to 22·9 in Aberdeen and 26·1 in Glasgow. The 619 deaths in these towns included 47 which were referred to measles, 17 to whooping-cough, 14 to diarrhœa, 3 to "fever," 3 to diphtheria, 2 to scarlet fever, and 1 to small-pox. In all, 87 deaths resulted from these principal zymotic diseases, against 100 and 84 in the preceding two weeks. These 87 deaths were equal to an annual rate of 3·1 per 1000, which exceeded by 1·0 the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 60 and 41 in the preceding two weeks, rose again to 47 last week, of which 34 occurred in Glasgow, 5 in Edinburgh and 4 in Paisley. The 17 deaths referred to whooping-cough corresponded with the number in each of the preceding two weeks, and included 11 in Glasgow and 3 in Edinburgh. The 14 fatal cases of diarrhœa showed a further increase upon those recorded in recent weeks, and included 6 in Glasgow and 3 in Aberdeen. The deaths from diphtheria, which had been 4 and 5 in the preceding two weeks, declined to 3 last week, all of which were recorded in Glasgow. The 3 fatal cases of "fever" corresponded with those in the preceding week, and included 2 in Edinburgh. The death from small-pox occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 138 and 139 in the preceding two weeks, declined to 126 last week, and were within 4 of the number in the corresponding week of last year. The causes of 50, or more that 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased from 25·2 to 28·8 per 1000 in the preceding five weeks, declined again to 21·5 during the week ending April 15th. During the thirteen weeks of last quarter the rate of mortality in the city averaged 28·1 per 1000, against 22·0 in London and 20·6 in Edinburgh. The 144 deaths in Dublin showed a decline of 49 from the high number in the preceding week, and included 3 which were referred to whooping-cough, 3 to "fever," 2 to measles, 2 to diarrhœa, 1 to scarlet fever and not one either to small-pox or diphtheria. In all, 11 deaths resulted from these principal zymotic diseases, equal to an annual rate of 1·6 per 1000, the zymotic death-rate during the same period being 1·9 in London and 2·1 in Edinburgh. The fatal cases of whooping-cough, which had been 2 and 6 in the preceding two weeks, declined again to 3 last week. The deaths referred to different forms of "fever," which had declined from 8 to 2 in the preceding three weeks, rose again to 3 last week. The 2 deaths from measles exceeded those recorded in any recent week. The 144 deaths registered in Dublin last week included 23 of infants under one year of age and 38 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from those recorded in recent weeks. Three inquest cases and 2 deaths from violence were registered; and 37, or more than a fourth, of the deaths occurred in public institutions. The causes of 12, or more than 8 per cent., of the deaths in the city last week were not certified.

PRESENTATION.—Dr. James Gibson of Rosebank, Doune, Perthshire, has been presented with a handsome microscope by the Thornhill Men's Ambulance Class in appreciation of his services to the class.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

SURGEON-CAPTAIN A. E. MORRIS will proceed to Portsmouth on expiration of his leave and will be struck off the strength of the Royal Victoria Hospital, Netley, from the 14th inst. accordingly. Brigade-Surgeon-Lieutenant-Colonel Nash has embarked for Egypt. Surgeon-Major Carleton has been granted six months leave from India. Surgeon-Major Franklin has arrived at Gibraltar for duty. Surgeon-Captains Melville and Moir have joined the North British District. Surgeon-Captain Healy has been transferred to Gosport. Surgeon-Captains Hickson and Colledge have returned from trooping duty and been posted to Ireland and the South-Eastern District respectively. Surgeon-Captain Josling has embarked for Sierra Leone. Surgeon-Lieutenants Longhurst and Pollock have been transferred from Aldershot to Portsmouth; Surgeon-Lieutenants Buswell, Samman, Farmer and Symons to Ireland; Surgeon-Lieutenant Taylor to Dover; Surgeon-Lieutenant Berryman to Jersey and Surgeon-Lieutenant Rivers to Devonport.

ARMY MEDICAL STAFF.

Brigade-Surgeon-Lieutenant-Colonel W. Nash, M.D., recently employed in the Army Medical Department at headquarters, is advanced to the rank of Surgeon-Colonel in consequence of the approaching promotion of Surgeon-Colonel Paterson. Surgeon-Major-General John By Cole Reade, C.B., is placed on retired pay (dated April 1st, 1893). The *London Gazette* of April 18th announces that "the retirement from the Service on a gratuity of Surgeon-Major, ranking as Major, William Hamilton Briggs, which appeared in the *Gazette* of Nov. 7th, 1890, is cancelled."

INDIA AND THE INDIAN MEDICAL SERVICES.

The following appointments are announced:—Vice Brigade-Surgeon-Lieutenant-Colonel W. Gray, retiring, Brigade-Surgeon-Lieutenant-Colonel G. A. Maconachie, M.D., C.M., to be Principal, Grant Medical College, retaining his other educational duties as at present; Surgeon-Major W. K. Hatch, M.B., C.M., F.R.C.S., to be Professor of Surgery and Chemical and Operative of Surgery, Grant Medical College; and Surgeon-Captain W. H. Quicke to be Professor of Anatomy and Curator of Museum, Grant Medical College. Surgeon-Captain E. Hudson, in Medical Charge of 15th Bengal Lancers, is appointed to the Medical Charge of the Cantonment General Hospital, Mooltan. 5th Bombay Light Infantry: Surgeon-Captain Prall, from the 16th Bombay Infantry, to the Medical Charge. Surgeon-Captain Cleveland to officiate in Medical Charge, 30th Bombay Infantry. Consequent on the retirement of Surgeon-Colonel A. H. Hilson, M.D., Surgeon-Colonel J. G. Pilcher, F.R.C.S., Administrative Medical Officer and Sanitary Commissioner, Central Provinces, at present officiating as Inspector-General of Civil Hospitals, Bengal, is confirmed in the latter appointment. The services of the undermentioned Medical Officers of the Bengal Establishment are placed temporarily at the disposal of the Government of Bengal: Surgeon-Captain J. C. S. Vaughan and Surgeon-Captain F. O'Kinealy. Surgeon-Major W. Dugdale, Army Medical Service, in Medical Charge, Fort Hospital, at Allahabad, is transferred permanently to the Rawalpindi District for duty. Surgeon-Major Myles, Army Medical Service, on arrival from England on a fresh tour, has been posted for general duty in the Mhow District. Surgeon-Captains Knaggs and Stalkartt, Army Medical Service, on arrival from England on a fresh tour, have been posted for general duty in the Bombay District. Brigade-Surgeon-Lieutenant-Colonel William Center, M.B., Civil Surgeon, Lahore, retires from the service from April 2nd, 1893. The undermentioned probationers for the Indian Medical Service, having completed a course of instruction at the Army Medical School, and reported qualified, are appointed Surgeon-Lieutenants on the Bengal Establishment:—Charles Milne, Vivian Godfrey Drake-Brockman, William Young, John Joseph Bourke, George Yeates Cobb Hunter, Bernard Robert Chatterton, Cedric Barkley Prall, Charles Edward Williams, John Norman Macleod, Walter Holland Ogilvie, Thomas Alfred Ollivant Langston, Richard Heard, Edgar Rowe Parry, Walter Hood Orr and Paxton St. Clair More.

NAVAL MEDICAL SERVICE.

Surgeon Thomas Russel Pickthorn has been promoted to the rank of Staff Surgeon. The following appointments are announced:—Deputy-Inspector-Generals: G. W. L.

Harrison to Malta Hospital and James W. Fisher to Plymouth Hospital (both dated April 19th, 1893). Fleet Surgeons: William B. Drew to the *Trafalgar* (undated) and Nicholas T. Connolly to the *Thunderer* (dated April 18th, 1893). Surgeons: Chaworth L. Nolan to the *Achilles* and *Trafalgar* (undated); Cornelius Bradley to the *Excellent* (dated April 25th, 1893); George McShane to the *Victory*, for temporary service (dated April 13th, 1893); Hugh Clift to the *Magpie* (dated April 25th, 1893); James Moore to the *Defiance* (dated April 30th, 1893); Charles J. Fyfe to the *Wanderer* and Michael O'Brien to the *Thunderer* (both dated April 18th, 1893).

VOLUNTEER CORPS.

Artillery: 1st Hampshire (Southern Division, Royal Artillery): Surgeon-Lieutenant A. W. Harris resigns his commission.—1st Forfarshire: David Middleton Greig, M.B., late Surgeon, Medical Staff, to be Surgeon-Lieutenant.—6th Lancashire: John Lloyd-Roberts, M.D., to be Surgeon-Lieutenant.—*Royal Engineers:* 2nd Gloucestershire (the Bristol): John Morgan Mortimer Thomas, Gent., to be Surgeon-Lieutenant.—*Rifles:* 2nd Volunteer Battalion, the Prince of Wales's Own (Yorkshire Regiment): Surgeon-Lieutenant T. W. Hime, M.B., resigns his commission.—1st Volunteer Battalion, the Prince of Wales's (North Staffordshire) Regiment: Surgeon-Captain C. H. Phillips resigns his commission.—3rd (the Blythswood) Volunteer Battalion, the Highland Light Infantry: Surgeon-Captain A. Wallace, M.D., resigns his commission.

Officers of the Army Medical Staff attached to the Foot Guards for duty will henceforth be permitted to hold their appointments for five years.

THE FRENCH TROOPS IN TONQUIN.

The official returns of the French troops in Tonquin for 1892 indicate that the losses from wounds and sickness have been very considerable. Nineteen officers were killed and 9 wounded, and 581 men were either killed or wounded during the brief campaign. No detailed returns are published of the losses from deaths, invaliding and sickness, but there can be little doubt that in such a climate the hospital admission-rate was a large one from malarious fever and dysentery, and that the invaliding and death-rates were correspondingly large.

THE ROYAL MILITARY ACADEMY, WOOLWICH.

The next examination of candidates under the new medical regulations for the Royal Military Academy will commence in London on June 27th next. The medical examination of the successful candidates will take place after the results of the competition have been announced, and the candidates will be allowed to select the stations at which they desire to be medically examined from a published list of ten places in the United Kingdom. The number of vacancies to be competed for is fifty.

RECRUITING AND SOLDIERS' RATIONS.

Notwithstanding that much has been done for the soldier of late years with the object of promoting his health and comfort in various directions, it is probable that nothing is likely to have more effect in popularising the army than the improved system of feeding. The system of messing introduced into the army by Colonel Burnett has effected a great practical and economical reform in a direction in which it was much needed. When it comes to be generally known—as it will be in a short time—that under the present system the soldier has an increased and varied scale of well-cooked diet, and that he is better fed now than he ever was before, it must, we should think, have a beneficial effect on recruiting. A well-fed army is a healthy and contented one, and Colonel Burnett has, we think, shown himself to be a great practical reformer and benefactor to the army.

THE HOSPITALS OF THE NATIVE ARMY IN INDIA.

His Excellency the Governor in Council, in placing on record his appreciation of the services rendered to the Bombay Government and the Bombay Army by its late Commander-in-Chief, Sir George Greaves, calls attention, amongst other things, to the practical improvements effected in the hospitals of the native army and in the condition of the Bombay troops in the Quetta district. The hospitals of the native army have been improved in the details of bedding, floors, furniture and equipment generally, so as to bring them more on a level with the hospitals for British troops in India. These details mean much in the way of greater comfort and well-being to the inmates. The accommodation for troops in the Quetta district has also been improved owing to the representations made by Sir George Greaves to the Government of India.

THE REGIMENTAL INSTITUTES IN INDIA.

One of the most striking changes that has taken place of late years in Indian army life has been brought about by the establishment of these institutes. It is said that an officer or soldier of a generation ago revisiting an Indian cantonment would be amazed at the change which has taken place. Instead of the canteen being crowded at fixed hours during the day it is now nearly deserted. Drinking for the sake of drinking has almost died out. The British soldier of to-day can obtain wholesome food amidst wholesome surroundings at a very cheap rate through the instrumentality of these institutes, which are one of the practical benefits conferred upon the British soldier in India by Lord Roberts. The "cheap supper" movement is stated to be a great success. The tendency in the present day is to combine recreation with refreshment and to trust the soldier more. In every regiment there are a sufficiently large number of sober, well-behaved men to see that this confidence and the privileges springing out of it are not abused.

WATER FILTRATION BY THE CHAMBERLAND-PASTEUR AND NORDTMEYER-BERKEFELD SYSTEMS.

Our contemporary the *Indian Medical Gazette* publishes a very useful memorandum on the above systems by Surgeon-Lieutenant-Colonel A. C. Roe. Although the actual composition of the material of the Chamberland-Pasteur filters has not been revealed, it is pretty well known that it is composed of porcelain and asbestos, fused at a very high temperature and afterwards compressed into the candle shape in which it is employed for filtering purposes. It has been adopted since 1890 for the army in France and Algeria, and in the French War Minister's report for 1891 it is stated that typhoid fever had been greatly reduced in the French army—the reduction in the number of cases being one-half and in the number of deaths one-third as compared with the average of the preceding four years. They are now in use in all bacteriological laboratories in France. The Nordtmeyer-Berkefeld filters are also in the shape of a hollow candle, open at one end, but are generally larger than the French filters. The substance of their construction is the fossil earth Kieselguhr found in the mines near Lüneberg, in Hanover. This earth is almost entirely composed of pure silica, which exists in the forms of the shells of diatoms of extremely minute dimensions. Like the porcelain in the Chamberland candles, the pores cannot become contaminated with putrescent matter. The advantages of both these classes of filters are summed up as follows:—They give for a considerable time a filtrate absolutely free from microbes; they can be sterilised by being brushed and boiled in water for an hour; they deliver water with reasonable rapidity (the Berkefeld having the advantage over the Chamberland in this respect); the filtering medium in both systems contains nothing capable of undergoing putrefaction and yields nothing to the water favouring the growth of low forms of life. By the different forms of apparatus the filters can be adapted for barracks, hospitals, railway stations, or for troops on the march. The Secretary of State for India is sending out six sets of each apparatus for trial in that country, and we may therefore hope to hear whether the results of their trial in India are as favourable as those shown in the reports of the Minister of War in France. We should add that Surgeon-Lieutenant-Colonel Roe belongs to the Indian Medical Service and was sent by the Indian Government to France and Germany to study and make himself acquainted with the modern systems of bacteriological research and measures of practical hygiene pursued in those countries.

SCOTTISH UNIVERSITIES COMMISSION.—Meetings of the Scottish Universities Commission have been held during the past week at the Westminster Palace Hotel. The Commissioners present were Lord Kinnear (chairman), Sir C. Dalrymple, M.P., Mr. J. A. Campbell, M.P., Mr. D. Crawford, M.P., Dr. W. G. Blackie, Professor Butcher, Mr. F. Fuller, Mr. A. Crum, Sir Henry Roscoe and the secretary, Mr. R. Fitzroy Bell.

Correspondence.

"Audi alteram partem."

THE PROGNOSIS OF ALBUMINURIA.

To the Editors of THE LANCET.

SIRS,—Everyone engaged in assurance examinations must wish success to any inquiry which aims at discovering the means of distinguishing between cases where the presence of albumen in the urine denotes the advent of kidney disease and those where it does not, but it is evident that such an inquiry must extend over many years before it can be brought to a satisfactory termination. Meanwhile how does the assurance medical officer stand in relation to what are at present doubtful cases? The very uncertainty of the future course of these cases renders them fit objects of assurance. Suppose we have a group of cases where albumen is found in the urine but displaying no other clinical feature by which we can determine whether this phenomenon forecasts kidney disease or not. What will happen to the group as far as our present knowledge goes? Some will pass through life unaffected by this apparent defect and others after a variable time will develop renal symptoms. These latter will live various periods of time, some as much as twenty, possibly thirty or more, years from the time when they were first examined. Some of them will succumb from the direct effects of disease, whilst others will die from the accidents attendant upon Bright's disease. The deaths in each of these classes would occur more numerously, as compared with the number living, as time went on. We shall thus have an extra mortality amongst such a group of cases, the extra increasing with the lapse of time. But this means that the mortality of such a group during any period will approximate to that in a group of normal cases, the members of which are a certain number of years older than those of the albuminuric group. The just method of treating the latter is therefore to load up each member a certain number of years. Unfortunately we cannot with our present experience determine what this number should be. Even if, as you suggest, the records of the assurance offices were made use of, their experience of cases having albuminuria that have been accepted is so scanty and recent that little at present could be learnt from it. There is one method of assurance devised by Mr. Manly which I believe meets the difficulty: it is called "the double tontine system." If the policy-holder lives through the stated period he receives a certain sum; if he dies within that period his heirs receive half that sum. It will be seen that death during the period does not necessarily entail a loss to the company; it pays the office well if death should occur towards the end of the period fixed. By this method a man of forty-five is assured for the same amount as one of twenty-five; so that if we have a man of twenty-five whom for the whole of his life we should rate up to forty-five or any age between twenty-five and forty-five he is just as eligible as a normal life.

It appears to me that the great majority of doubtful albuminuric cases are eligible at ordinary rates under such a system for variable periods, according to their age. A typical instance would be a group of apparently sound men of twenty-five with a small amount of albumen in their urine. I consider that for the next twenty years this group of lives is certainly as good as a group of normal men of forty-five and is therefore eligible under the double tontine system at ordinary rates. Let me state the case in another more obvious but less accurate way. A man of twenty-five, of healthy appearance, is found to have albumen in his urine and is willing to take up a double tontine policy for a period of twenty years. It is calculated that if he dies in the first fourteen years—i.e., before the age of thirty-nine—the company loses; if he dies in the last six years—i.e., between thirty-nine and forty-five—the company makes a profit; and if he lives through the whole period, as a matter of fact the company makes a slight gain. If the man develops kidney disease and eventually dies from it, surely death is more likely to occur after thirty-nine than before it. With reference to the meaning of a trace of albumen, when it is remembered that a 1 in 1000 solution of albumen gives quite a thick cloud, and even a 1 in 10,000 an appreciable one, it can scarcely be imagined that any amount of albumen that does not make itself distinctly evident can be of any pathological significance, though for purposes of scientific investigation it would no doubt be well if a standard amount of opacity were fixed which would indicate a "trace" of albumen. Observers would be found to vary only slightly in their judgment as to whether any particular specimen fell short of, equalled or surpassed the standard in opacity.

I am, Sirs, yours faithfully.

Finsbury-circus, March 29th, 1893. THOS. GLOVER LYON.

To the Editors of THE LANCET.

SIRS,—I am induced by two cases which have lately come under my notice to draw attention to the fact that the presence of albumen in the urine may in some cases be due not to any disease of the genito-urinary tract, but to a malformation. The particular malformation I refer to is the persistence of some tubules of the Wolffian body—generally Gaertner's duct—and the discharge of their contents into the vesical cavity. I was consulted lately by a woman who had suffered from a vaginal watery discharge all her life. On careful examination I detected a persistent Gaertner's duct opening into the vagina. The fluid passing from this duct had a sp. gr. of 1026, and contained a considerable quantity of albumen and some chloride of sodium. The patient was most anxious to obtain relief from this discharge, and I was able to accomplish this by diverting the end of the tube into the bladder instead of the vagina. Being a fellah she is hardly likely to apply for life assurance, but were she to do so the examining physician would be unlikely to attribute her albuminuria to its right cause. Cases of persistent Gaertner's ducts opening into the vagina have been repeatedly recorded, and it is quite possible that in some cases where a duct has persisted it has opened into the bladder. The chemist to whom I submitted the fluid was unfortunately unable to find any constituent that could be considered as characteristic and which could be identified when mixed with urine, and I can therefore do no more than call attention to the fact that simple albuminuria may be due to a persistent Gaertner's duct.

I am, Sirs, yours faithfully,

Cairo, March 4th, 1893. H. MILTON

"TREATMENT OF CERTAIN CASES OF SHOCK BY SALINE INJECTIONS."

To the Editors of THE LANCET.

SIRS,—From Dr. Benham's letter in the last issue of THE LANCET I fear that, in my desire to present my views tersely, I may have sacrificed lucidity to brevity; but I think if Dr. Benham will refer to the original paper he will find that in the cases I mentioned in detail and in others I referred to the shock came on immediately after the operation and not after an interval of some hours, as he appears to think. The reason why blood did not flow from the superficial veins when opened was because they were empty and not, as Dr. Benham suggests, because the blood was thick and could not flow. The cases presented no appearance of asphyxia and there was no sign of distension of the right ventricle. I do not think that the ether had anything to do with the condition of shock, which it is well known may follow any serious or prolonged operation even if chloroform be used, as well as any serious accident where no anæsthetic is in question. I remarked in my paper that "Dr. Brunton shows that shock is mainly due to paralysis of the heart and vaso-motor paralysis of the abdominal vessels, and the sudden dilatation of the abdominal vessels may simulate hæmorrhage." In case of shock without serious hæmorrhage the blood is driven into the large abdominal veins, where for the time being it is useless, leaving the head and extremities in a state of anæmia. I have reason to believe that "such a state of things is not only likely or possible," but extremely probable, and from private information given to me since my paper was read at the Clinical Society, but which I have not yet permission to make use of, I anticipate that experimental proof will be shortly forthcoming.

Why venesection, as suggested by Dr. Benham, should prove serviceable in cases of shock rapidly hastening to a fatal termination, I fail to grasp, but I think it is easy to understand why relief should follow transfusion of several pints of normal saline solution, as the stagnant blood is carried into the circulation again and the vessels in the head and extremities again become filled with blood, which, though diluted, seems able to serve its purpose. However accounted for, the facts remain, and I would thank Dr.

Benham, although I cannot agree with him, for his attempt to explain the *rationale* of the process of relief.

I am, Sirs, yours truly,

A. W. MAYO ROBSON.

Hillary-place, Leeds, April 18th, 1893.

DEFINITION OF PUERPERAL FEVER.

To the Editors of THE LANCET.

SIRS,—As you have been kind enough to give expression of opinion as to the duties of a medical officer of health, I should feel much obliged if you could help me out of the following difficulty. Just recently I received the registrar's weekly return of deaths and I noticed that a death had been registered as puerperal septicæmia. The case had not been notified to me in the usual course, so I wrote a friendly letter to the medical man in attendance (who is a medical officer of health of another district) asking him his reason for not doing so. He wrote me a friendly letter in return and the gist of it is this: that the patient died from septicæmia originating from the decomposition of coagula and small portions of adherent placenta and not from any miasm of a zymotic nature. A post-mortem examination was made and he found small portions of placental tissue in a state of gangrene; also he did not wish to speak positively concerning a subject on which there is at present some difference of scientific opinion. He also leans to the opinion of puerperal fever being distinctly of a zymotic nature only. I may add that this gentleman did not see the patient until two days after her confinement and he took every precaution by antiseptic douches until her death, which took place five days after the birth of twins. Now, what I want to know is this: was I justified in inquiring into the case, also in preventing the nurse from attending any other cases for a time? I personally lean to the opinion that such cases distinctly come under the head of puerperal fever and consequently require investigation under the Notification Act. The house where the patient was delivered and died was in a most insanitary condition and is now being thoroughly rectified.

I may add that I have not reported the case to my board; also there is not the slightest tension between the medical man and myself, only a friendly difference of opinion, which I am anxious to be guided upon in future cases should they arise. Apologising for the length of my letter,

I am, Sirs, yours truly,

C. DWIGHT MORRIS,

M.O.H. Staines Rural Sanitary Authority.

Feltham, Middlesex, April 17th, 1893.

"REPORT OF THE LANCET SPECIAL SANITARY COMMISSION OF INQUIRY CONCERNING THE WATER-SUPPLY OF CHICAGO, U.S.A."

To the Editors of THE LANCET.

SIRS,—I read with interest your Chicago water report, as I resided from October, 1892, to January, 1893, in Chicago and contracted typhoid fever within a few weeks of going there, due, I feel sure, to the unhealthy water. On recovery I interested myself much in the matter, and openly and privately declared my opinion that Chicago could never be a healthy city unless proper filtering tanks were formed. I was more impressed still by the fact that just before I left England I had given scientific evidence on a water pollution case in Lancashire.

I am, Sirs, yours faithfully,

New Brighton. J. G. PURCELL.

"EPITHELIOMA OF BOTH EXTERNAL EARS."

To the Editors of THE LANCET.

SIRS,—Will you allow me to point out that Mr. Ernely Sumpter, who thus characterises a case published in the last issue of THE LANCET, is hardly warranted in so doing by the facts he records. An old man's ears were in an unhealthy condition, seemingly of chronic eczema; nine months since ulceration described as "simple" took place; the sore on the right ear quickly passed into a typical epithelioma; that on the left "remains in much the same condition as at first," and is therefore presumably still non-malignant. The extreme rarity, to say no more, of a synchronous cancer growth in two distinct tissue areas makes it most important that any case bearing such an aspect should be minutely verified. The congenitally irritable conditions of skin, known respectively as Kaposi's and Dühring's diseases, form the sole instances to the contrary of which I am aware. There is nothing intrinsically impossible in the idea of two different organs or regions exposed to the action of a similar exciting cause becoming cancerous; but in the past seventeen years of special contact with malignant disease I have never seen or heard of such an occurrence. I once, however, had under my care a man who was supposed to have double epithelioma of the upper eyelids and whose case had indeed been so styled in print. He had nothing more than ectropion with extreme hypertrophy of the palpebral conjunctiva on each side, but with no trace of malignant deposit. I am, Sirs, yours faithfully,

Gloucester-place, W., April 15.h, 1893. HERBERT SNOW.

"THE TREATMENT OF HÆMORRHOIDS BY CLAMP AND CAUTERY."

To the Editors of THE LANCET.

SIRS,—In face of Mr. Allingham's disparaging criticism of Mr. Henry Smith's operation for hæmorrhoids by the clamp and cautery, I think those who have had opportunities of seeing numbers of cases treated by him and others by that method should record their experience, an experience which, I venture to say, will differ very considerably from Mr. Allingham's aspersions. As a former house surgeon of Mr. Smith I have had those opportunities. The cases for treatment were not, as Mr. Allingham suggests they should be, selected; every case of internal hæmorrhoids requiring operation was treated—and is still, I believe, treated at King's College Hospital—by the clamp and cautery, and, I can confidently assert, with eminently satisfactory results, both as regards the operation itself and its after-consequences. What is the use of Mr. Allingham talking, in connexion with this operation, about a burn in the rectum being the most painful of all injuries, about secondary hæmorrhage being likely to occur on the separation of the sloughs and about contraction being by no means absent as a sequela, when everyone who has seen much of this operation knows that there is practically no pain following the operation, that secondary hæmorrhage never does occur, and that contraction, if it threatens, can easily be prevented by a little care on the part of the surgeon. With regard to the mortality (four times as great as any other method) I presume Mr. Allingham obtained his figures from somewhere—I trust not from the record of his own experience; but all I can say is that, though I have seen this operation performed continually during the last ten years, I have never seen or heard of a fatal case.

I am, Sirs, yours truly,

CHARLES P. CHILDE, B.A., F.R.C.S.Eng.

Southsea, March 12th, 1893.

TREATMENT OF ABDOMINO-THORACIC INJURY IN THE SEVENTEENTH CENTURY.

To the Editors of THE LANCET.

SIRS,—As the following case presents many points of interest from a medico-legal side, I ask your permission for its being reprinted.

"The Scots, under Lesly, in their march from Hereford to Newark passed through Warwick; there being guards set at several places to prevent disorders. A Scots' trooper quarrelling with one of the guards, the said captain and his man passing by, the man entreated him to be quiet, for they did but discharge their duty. The Scot immediately leaving them, with his tuck run him in at the left side, which passed between the ribs into mucronata. The man, finding himself wounded, sets spurs to his horse and rid from St. John's Brook to the Castle, the best part of half a quarter of a mile. As he came riding up, with others, standing at the outmost gate of the Castle, seeing him make such haste, with a wan countenance (that always had been ruddy) and the horse side bloody, scarce any thoughts of his wounding being perfected, before he came near me by twenty yards he fell from his horse. With another ran and carried him within the gate, laying him on a form without at the

porter's lodge on his back, by which time an universal coldness had seized him; his pulse was gone and so to all appearance past recovery. I used frictions, till a handful of salt came which I sent for, with which, rubbing his lips for a quarter of an hour, his colour came and he began to look up. Being after carried into the Castle I prescribed this: 'R Aq. Borag, Buglos, Julap, Norimberg, an ʒj.; aq. Cinam, ʒvj.; Confect. Alker, ʒj.; Syr. Caryoph., ʒj. M. Having taken six or eight spoonfuls at several times, he seemed to revive more, and his pulse got up a little. About two hours after, coming to him with my wife, speaking something to him to prepare for heaven, he understanding cried out for all or most part of that night, 'heaven, heaven.' The next morning finding him in a fever, after I had dressed his wound, which was very small, I opened a vein. Towards the afternoon he spoke pretty plain and knew me. This day I was sent to by the commissioners to know the state of the man, that so General Leven with a council of war might try him. I returned answer that I conceived he was wounded in the mucronata and that he could not long continue. The next morning finding the fever again increased, I repeated the venesection, as also the next morning after that, yet in the afternoon he died. The next day I opened him, there being present his captain, Mr. Trap, minister, and several officers and soldiers. I found the tuck[1] had passed through the diaphragma into the point of the heart, almost to the right ventricle, and the stomach drawn up above the midriff."—Mellificium Chirurgiæ: or the Marrow of Chirurgery. By Dr. James Cook of Warwick, who edited Mr. John Hall's "Select Observations on English Bodies of Eminent Persons in Desperate Diseases," at 2s. 6d., for Mr. Hall's widow Susanna, the favourite daughter of William Shakespeare.

I am, Sirs, yours truly,

GEORGE FOY, F.R.C.S. Irel.

Cavendish-row, Rutland-square West, Dublin, March 11th, 1893.

AN OBSCURE CASE.

To the Editors of THE LANCET.

SIRS,—A few days since I was called upon by the coroner to perform a post-mortem examination upon the body of a youth who had died somewhat suddenly. The history of the case, as told by the father, was that whilst going an errand he fell and struck his head behind the ear. He mentioned this to his father, but did not complain of feeling any ill-effects from it at the time and seemed as usual until midday on the day following; he then felt ill, had severe pains in the head and neck and lay down. He rapidly became worse and died about 6 P.M., no medical man having previously seen him. At the necropsy the body was found to be well nourished. No marks of injury were to be found on the head or neck; there was no injury to the base of the skull or brain (though I fully expected to find a fractured base); I carefully examined the spine and could find no injury there. The heart, lungs and liver were healthy; the stomach contained some fluid and was healthy, and the intestines were also healthy, the large one containing fæces. The spleen was enlarged and soft, and upon section it was found to be very congested and friable. The kidneys were congested, the pyramids and cortex not being easily distinguishable; they both stripped readily. The blood was fluid and the aorta and large vessels were stained bright red. From the above conditions I concluded that the boy died from hyperpyrexia due to one of the fevers, and as several cases of influenza had occurred in this district I thought it probably due to that. I should be glad to know whether any of your readers have had any similar experience.

I am, Sirs, yours truly,

J. W. SMITH, M.R.C.S., L.R.C.P. Lond.,
Assistant Medical Officer, Lambeth Infirmary, S.E.

April 18th, 1893.

PAPILLOMATOUS GROWTH OF OVARY.

To the Editors of THE LANCET.

SIRS,—I, and doubtless many more, will be exceedingly interested in knowing the future history of the case reported by Mr. Bland Sutton in THE LANCET of April 8th, and I trust he will at a later period be able to report on it. The case strongly reminds me of a patient, under the care of Dr. Purcell at the Cancer Hospital, from whom a large papillomatous growth, springing from the left ovary, was removed. There was a great amount of straw-coloured fluid present in the abdomen and a few small raised nodules were noticed on the fundus of the uterus. The patient made a rapid recovery and was discharged from the hospital six weeks after laparotomy was performed. Dr. Purcell described the case and showed the specimen at the British Gynæcological Society in the early part of 1891. The same surgeon informed me that the patient remained in excellent health for a time, but that she died about twelve months after the operation, when the peritoneum was found to be studded with growth.—I am, Sirs, yours truly,

Colney Hatch, N., April 17th, 1893. CECIL F. BEADLES.

[1] Tuck—a rapier. "Dismount thy *tuck*, be yare in thy preparation, for thy assailant is quick, skilful, and deadly."—TWELFTH NIGHT, act 3, scene 4.
"You bow-case, yow vile standing *tuck*."—KING HENRY IV., P. 1, act 2, scene 4.

"VENESECTION."

To the Editors of THE LANCET.

SIRS,—In reply to Mr. Redford's letter in the last issue of THE LANCET, relative to bleeding and the Duke of Kent, may I refer him to the "Life of the Duke," published forty or fifty years ago, in which there is an account of his last illness. If I remember rightly, he was bled to a far greater extent than 120 oz., but how much blood he lost at one time I am unable to say. I have not the book to refer to, but perhaps some of your readers have and can give particulars; at any rate, the book can be seen at the British Museum or other public library.—I am, Sirs, yours truly,

Tenterden, April 17th, 1893. JESSE H. NEWINGTON.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The General Hospital.

AT a recent meeting Mr. Albert Lucas was elected assistant surgeon. It was resolved to appoint an assistant obstetric officer owing to the increased work of this department. Already there are several candidates in the field.

Action against the "Birmingham Daily Post."

In the case of Evans *v.* Jaffray, recently reported, a verdict was given with £75 damages for the plaintiff. On appeal this has been set aside and both sides have been ordered to pay their own costs. This is not satisfactory to the medical plaintiff.

Skin and Lock Hospital.

The twelfth annual meeting was held on the 19th inst. The report showed that the new cases treated in the out-patient department during the year were 4469, as compared with 3692 for the previous year. There had been 127 in-patients, as against 77. The growth had been very great, an increase of 120 per cent. in five years. The financial position was also satisfactory: Income, £2116; expenditure, £1845.

April 19th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Cholera Precautions on the Tyne.

A CASE of supposed Asiatic cholera was observed at one of our Tyneside towns a few days ago and caused much concern to our sanitary authorities, but the particulars were kept quiet. The dejecta were examined at the bacteriological laboratory of the College of Medicine in this city by Dr. George Murray, who was fully satisfied that the characteristic bacilli were not present. A special meeting of the Tyne port sanitary authority was held on last Saturday to meet Dr. Thompson of the Local Government Board, who said that his visit to the Tyne was a very pleasant one, but he had very little to say in the way of criticism. The River Tyne port sanitary authority had been fully alive to their duties, and the members and their officers had done their utmost to meet the danger. He was perfectly satisfied that every precaution that was considered necessary would be repeated this year. A discussion of some interest took place on the subject of cremation, should it be necessary, of the bodies of persons who had died from cholera, and the use of the many riverside

furnaces was suggested for this purpose, which was at once met by the objection that cremation, however scientific a mode of disposal of the dead, was hardly far enough advanced in the public mind to be adopted by a popular body. Indeed, there is a well-known determination amongst furnacemen, if a life is accidentally lost through a man being burnt in the furnace, to at once strike work for the day and to decline to deliver any fuel or material.

A Centenarian.

Mr. Thomas Ironsides, farmer, of Kibblesworth, near Gateshead, on Thursday last completed his 102nd year. The old gentleman is reported to be still hale and hearty and he takes an interest in his farm. Two years ago, when he attained his 100th birthday, he led off a dance on the lawn in front of his house.

Destruction of Plants on the Cheviots.

Our local botanists are up in arms against the wholesale and ruthless destruction of ferns and other plants on the Cheviots. It is said that 80,000 ferns alone are uprooted and sold from the Cheviots yearly. Unless something is done it is pointed out that the rarer flora of Northumberland and the Border will soon become extinct.

The late Miss Mary Carruthers of Whitehaven has bequeathed £50 to the Whitehaven Infirmary, the Shipwrecked Mariners' Society and the National Lifeboat Institution respectively.

Newcastle-on-Tyne, April 19th.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

The late Professor Macnamara's Appointments.

THERE are now vacancies for the posts of surgeon to the Meath Hospital, representative of the Royal College of Surgeons on the General Medical Council, surgeon to the Westmoreland Lock Hospital, and member of the Council of the Royal College of Surgeons. For this latter there are already two candidates—Mr. Humphrey Broomfield and Dr. Cranny. The Professorship of Materia Medica and Pharmacy at the Royal College of Surgeons, which the deceased gentleman held, will not be filled up.

Sir Patrick Dun's Hospital.

The fall in the rents derived from landed property have, in consequence of the landed agitation, for some years diminished the revenues of this hospital by £900 a year. A conversazione in aid of the funds of the charity will be held next Thursday evening in the Royal College of Physicians under distinguished patronage. There will be scientific demonstrations by Professor Emerson Reynolds, also limelight photographic displays, a concert and skirt dancing.

Health of Dublin during March.

The month was unusually warm and genial, which probably accounts largely for the fact that the death-rate was no less than 8·03 per 1000 below the mean rate for March in the previous ten years. It was probably the lowest death-rate, according to Sir Charles Cameron, for March since registration of deaths commenced at Dublin in 1864. The zymotic death-rate was 1·21 below the average.

Cork Water-supply.

Professor Hartog of Queen's College had an interview with the Public Health Committee in reference to the water-supply of the city. He stated that he had examined specimens of the scum taken from the reservoir. The scum supplied to him was not that of a reservoir through which water was rapidly passing, as it was contaminated with the scum of the overflow from the slow-running water along the banks of the river Lee. He attributed the contamination to the fact that the water was not filtered at all, but he was informed that it was. There was a filter in connexion with the reservoir, but there was also an open sluice that placed the water in direct communication with the reservoir. Another point was that cattle were allowed to graze on the inch at the waterworks. These cattle must contaminate the water, and it would be a matter for prosecution if a private individual were to do so, as interfering with the water-supply. It had been said that the water had never been instrumental in spreading disease, but to that he answered that for some years the city had never been free from typhoid fever, the abundance of cases of which at some time had risen to the dimensions of an epidemic, and this had occurred in instances where the drainage had been perfectly satisfactory, and the only cause had been the supply of impure water. It seems that an expenditure of several thousand pounds would be required to construct an impounding reservoir and filtering beds, and the Public Health Committee do not see their way to expend so much money; but surely the sum required for these improvements of the water-supply to the citizens would be well spent if it added materially, as no doubt it would, to the health of the citizens.

Charitable Bequests.

Miss Mary Tallon, of Crosthwaite Park, Kingstown, has bequeathed £1000 to St. Michael's Hospital, Kingstown; £750 to the Hospital for Incurables; £500 to the Mater Misericordiæ Hospital; £500 to St. Vincent's Hospital, Dublin; and £200 to Monkstown Hospital.

Death of Professor William Roe, M.D., of Dublin.

Last week I chronicled the death of a professor of the Royal College of Surgeons, and this week I record with regret the demise of another professor—viz., Dr. William Roe, whose death took place suddenly at his residence, Lower Fitzwilliam-street, on the 18th inst., at the age of fifty-two years. Dr. Roe had been in poor health for some considerable time past and looked more like sixty years of age than fifty-two. He received his medical education at the College School, at Queen's College, Galway, and at the Meath Hospital, Dublin. In 1863 he obtained the M.D. degree from the Queen's University in Ireland, and three years afterwards the Fellowship of the Royal College of Surgeons. In 1877 he succeeded Mr. Cronyn as Professor of Midwifery at the College School, which post he retained to his death. For a considerable period he was attached to the Coombe Lying-In Hospital, and when the National Lying-In Hospital was established in 1885 he was appointed Master. Dr Roe was formerly examiner in Midwifery at the Queen's University in Ireland and at the Royal College of Surgeons, and in his earlier career was house surgeon to the Liverpool South Dispensary and senior visiting surgeon to the Liverpool Dispensary and Bridewell. His contributions to medical journals included papers on "Treatment of Ulcerated Os and other Uterine Affections by Carbolic Acid," "Use of Sulphites as Anthelmintics in Intestinal Worms in Children," "Treatment of Post-partum Hæmorrhage by Injection of the Perchloride of Iron," "Treatment of Sterility," &c.

The death is announced of Dr. George Donaldson, fourth son of Mr. Robert Donaldson, Fort Hill, Clontibret, Monaghan. Dr. G. Donaldson, who died on the 17th inst. aged twenty-seven years, was a graduate in arts, medicine and surgery, of Trinity College, Dublin.

April 18th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Surgical Congress.

THE Twenty-second Congress of the German Surgical Society met at the Langenbeck House here on the 12th inst. The first discussion of scientific interest had reference to the surgery of the liver, and Drs. Bardeleben, Czerny, Bergmann, Küster and König (the President of the Congress) took part in it. Dr. Hoffa of Würzburg spoke on the operative treatment of congenital dislocations of the hip-joint. Dr. Gwelt of Berlin reported the results of the collection of statistics of narcosis continued in accordance with the resolution of last year's Congress. Dr. Helferich of Greifswald spoke on curved resection for the cure of ankylosis of the knee-joint, and Dr. Neumann of Halle on the treatment of myeloid sarcoma of the long bones by resection. Dr. Küster of Marburg and Dr. Julius Wolff of Berlin showed children who had undergone operations for cleft palate, and Dr. Czerny spoke on sacral operations. The second sitting was on the 13th inst. Dr. Küster showed a child who had undergone an operation according to the method of palatine suture expounded by him the day before. Dr. Heinleth of Hamburg explained an apparatus constructed by him for the exact measurement of the chest. Dr. Czerny's lecture on sacral operations was then discussed by Drs. Schede, Gussenbauer and others. Dr. Karg of Leipsic exhibited admirable glass micro-photographs of sections through pathological formations. Dr. Schlange of Berlin spoke on the diagnosis of

the solitary bone-cyst and showed patients. Three interesting cases of trephining were reported by Drs. Hahn of Berlin, Nicolai of Frankfort-on-the-Oder, and Stenzel of Küstrin. Then followed a discussion on the Transplantation of Cutaneous Flaps to the Surfaces of Wounds, in which Drs. Krause of Altona, Koerte of Berlin, Hirschberg of Frankfort-on-the-Main, and Lauenstein of Hamburg took part. This was followed by the discussion of an improved apparatus for the treatment of Severe Curvature of the Spine, after which Dr. Stenzel reported a successful case of Sewing the Sinew of the Triceps. Dr. Schlange of Berlin showed two cases of Elevation of the Right Shoulder-blade whilst the vertebral column remained straight. Dr. Hildebrand of Göttingen discussed the Treatment of Spina Bifida. A case of successful treatment of Neuralgia of the Fifth Cranial Nerve by stretching the nervus facialis, shown by Dr. Schulze-Berge of Oberhausen, gave rise to a discussion. Before the close of the sitting Dr. Koerte showed a case of Chole-cystotomy performed for the cure of gall-stone. This demonstration gave rise to a lively discussion. The members of the Congress met at a banquet in the Central Hotel at 5 P.M. On the 14th Professor von Esmarch was elected President of the Society for next year. The final meeting was held on the 15th. On Thursday Dr. Lassar's Dermatological Clinic and the new Surgical Policlinic of the University were visited. On Friday Dr. Landau's Gynæcological Clinic, the Emperor and Empress Frederick Hospital for Children, and the surgical wards of the Moabit Hospital were inspected and on Saturday those of the Hospital am Urban. On Saturday morning a number of the members were present at the performance of operations in Dr. Landau's Clinic.

The International Sanitary Conference.

The International Sanitary Conference was closed yesterday after the signing of the Convention by Germany, Austria, Belgium, France, Italy, Luxemburg, Montenegro, Russia, Holland and Switzerland. The other States took the Convention *ad referendum*. It will be ratified in six months at Berlin. It consists of two parts. The first contains international measures for the prevention of cholera and of the useless hampering of passenger traffic. The second has reference to the supervision of sanitary matters at the mouths of the Danube. Count Dönhoff, Prussian envoy at Dresden, closed the Conference and expressed its thanks to the King of Saxony for his hospitality.

April 16.

Obituary.

RAWDON MACNAMARA, M.D. (UNIV. DUB. HONORIS CAUSA), F.R.C.S.I., L.R.C.P.I.,

SENIOR PROFESSOR AND SENIOR MEMBER OF COUNCIL AND REPRESENTATIVE OF THE ROYAL COLLEGE OF SURGEONS, IRELAND, ON THE GENERAL MEDICAL COUNCIL.

PROFESSOR MACNAMARA, whose death we recorded last week, was the second son of Rawdon Macnamara, a leading Dublin physician. He was born in 1822, was educated by private tuition and subsequently entered Dublin University. He was indentured as an apprentice to Sir Philip Crampton, Bart., completing his medical studies mostly in the Meath Hospital and in the Royal College of Surgeons, Ireland. He began his profession by following in the footsteps of his father and adopted as a special study materia medica, his father having been the professor of that branch of medical education in the Royal College of Surgeons, Ireland. He soon had active experience in professional services when, during the epidemic of cholera which devastated Dublin in 1848, he gave his services in the cholera sheds which were erected in the city and toiled assiduously for the relief of the many sufferers at that time. Professor Macnamara became a well-known teacher of materia medica, and great numbers of students passed successfully through his hands whilst still but a young man himself. In 1860 he was elected Professor of Materia Medica in the school of the College of Surgeons, a post upon which he always looked with a certain amount of filial reverence, as his father, who died in 1836, had filled the same chair. As a lecturer he was most popular with the class, and on some occasions, when the students were obstreperous in other classes, Professor Macnamara had to be called in to win them back to the ways of discipline and good humour. In 1869 he was unanimously elected President of the Royal College of Surgeons of Ireland and during the year of his presidency the profession in Ireland combined to express the esteem in which it held him by presenting him with a most complimentary testimonial and a large and massive service of silver. Subsequently—in 1874, when his colleagues had it in their power to still further show their confidence in him—they wisely elected him as the representative on the General Medical Council for the Royal College of Surgeons, Ireland, a post which he has ever since ably filled, being an eloquent and forcible speaker and a highly successful champion of his college on all occasions. It seemed as if it were decreed that Professor Macnamara should follow in the footsteps of his father, whose memory he reverently cherished, for in 1863 he was elected as surgeon to the Meath Hospital, a post which had been held by his father many years before. In the wards of the hospital he was a great favourite with the students, who when he came into the wards used to throng round him. In practice he was a most conservative surgeon, though a fearless and quick operator. Younger surgeons and less experienced than he, coming from other schools, could not in many instances fathom the optimism of a mind such as his, when he used to maintain in the early days of Listerism that all that was claimed for that system could be effected by cleanliness in every detail of surgical operations. He never wavered in such teaching, neither, indeed, did he ever teach without such principles being held in the front rank of all his remarks. His experience in the surgery of malignant growths had led him to consider that in cases of cancer patients survived longer who were not operated upon, and he had many convincing cases in support of his belief in this theory.

Professor Macnamara set an example to surgeons in his interest in the study of materia medica. He was not without his reward when so able a master in that study as Neligan used to say that if his work on "Medicines: their Uses and Modes of Administration" had to pass through other editions "Macnamara should be the editor," and how ably Professor Macnamara fulfilled this function when called upon by the publishers of Neligan's work is on record. The work so edited is classical, not alone on materia medica, but on chemistry, as it enters into that study, and for the practical uses of medicine the book is replete with the experience of a keen and educated observer. Professor Macnamara was the author of an able pamphlet on epistaxis and also on the treatment of stricture by the immediate plan, being the first surgeon in Dublin who in the "sixties" adopted that treatment and did so with such marked success that other surgeons, who had previously hesitated, thereupon introduced Mr. Holt's system into their practice. During the cattle plague in 1866 Professor Macnamara was selected as one of the three gentlemen who were called upon to draw up a scientific summary on the effects as a food of of the meat of animals slaughtered with symptoms of pleuro-pneumonia; an able pamphlet was the result of this inquiry. Professor Macnamara has contributed many able papers and letters to medical literature.

In social life Professor Macnamara was greatly loved. He was hospitable almost in a princely manner. It was he who introduced the custom of the President entertaining the Irish Viceroy at the Royal College of Surgeons in Ireland, which Professor Macnamara did in such a handsome manner that Earl Spencer expressed wonder at such a banquet being the munificence of any one individual. The custom has become a time-honoured one since. Naturally he was a most genial entertainer as well as a much valued guest. Gifted with an excellent memory, he was perhaps one of the most happy retailers of anecdote of his time and always seemed able to "cap a good story with a better." It is no disparagement to even such a profession as is the medical to say, few men in it were so highly educated as was Professor Macnamara. The careful education of his youth had its proper effect on a naturally clear brain. He was a rare linguist, speaking classic Latin, French and Italian with ease, fluency and correctness.

The principles which actuated his repeated acts of generosity and charity were most sincere, for though he was almost devoid of what might be called effeminate sensibility his heart went out freely, as did his practical help, to every sufferer around him, and he seemed to consider that every man was actuated by the same good and

honourable principles that entered into his own character. The light in which he was regarded by his children may perhaps best be understood by the fact that each one of them seemed to look forward to the sweetest holiday of their life as being that in which they could be in his presence. A gentle and loving husband, a devoted and encouraging father, he was a man whose whole nature seemed to have been without guile. He acted, worked and lived not for himself, but for the good of those around him. His life-long friend, Sir George Porter, and one of Professor Macnamara's recent pupils at Meath Hospital, Dr. E. E. Lennon, attended him in his illness, which was an acute attack of pneumonia, provoked, it is thought, by a chill contracted a few days previously at a meeting of the College. He died on the 12th inst. in harness, as he desired it might be. His funeral was conducted with all academic honours from the portals of the College he served so well and followed by a vast body of his professional brethren and friends.

Professor Macnamara belonged to a very old Celtic family, the Macnamaras of Ayle, co. Clare. He married in 1846 Sarah, the daughter of Peter Blanchard, and had seven children, two of whom, a son (Rawdon) and a daughter (the youngest), died before him. One son, we are glad to think (Mr. C. E. Macnamara), is in the profession and promises worthily to perpetuate in Stephen's Green the name and nature of one of the best specimens of an Irishman and of an Irish medical man which we have seen in this generation. For a humanity that invoked sympathy with all sorts and conditions of men, and a rare culture of mind that made him at home among the brightest and the most accomplished men of all nations, that secured for him the honorary degree of the University of Dublin, the honorary membership of the Apothecaries' Hall, Ireland, and the Fellowship of the Medical Society of the University of Christiania, we shall ever regard him alike with affection and admiration. Nowhere will he be more missed than in the General Medical Council, of which he was a conspicuous figure and in the debates of which he took a broad and influential part. He was in that body a tower of strength—a concentration of manhood. Jealous, indeed, for the honour of his College, and unmerciful for a moment if any disputant were rash enough to whisper a reflection on her honour, he was quick to recover all the courtesy of an Irish gentleman and, by some choice piece of humour or apt quotation from the classics, to close the incident with grace and good humour. The Council will meet in May—a duller and a sadder body for want of the presence of Rawdon Macnamara.

Medical News.

EXAMINING BOARD IN ENGLAND OF THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.

—The following gentlemen passed the First Examination of the Board in the subjects indicated at the quarterly meeting of the Examiners, under the Four Years' Regulations only :—

Chemistry and Chemical Physics.—Marcus Anslow Alabone, Guy's; Maurice Clare Bielefeld Anderson, St. Mary's; Arthur Cyril Bird, St. Thomas's; Vernon Kent Blackburn, Sheffield; Willoughby Arthur Blackstone, University College; Thomas Howard Body, Guy's; William Stanley Boothman, Manchester and private; Ernest Bowser, St. Bartholomew's and private; Alfred Sigismund Bruzand, London; William Carnes, Leeds; Charles Nugent Chadbora, St. George's; Edward Adams Charlesworth, Middlesex and private; Edward William Clapham, London; Henry Nunan Collier, Guy's and private; Arthur Crossman, London; John Tabuteau Crowe, St. Mary's; Walter Cowdell D'Eath, Charing-cross; Ferdinand Lionel Denner, London; Edward Lucius Day Dewdney, King's College; John Herbert Laurence Duke, Charing-cross; Dan Grant Eastment, Middlesex and private; Thomas Ashcroft Ellwood, Charing-cross and private; Alexander Evans, Glasgow; Charles Robert Evans, Guy's; Daniel Fogarty, Dublin and private; Louis Alexander Weatherhead French, University College and private; Walter Green, private; Edward Hubert Samuel Rothwell Greene, Charing-cross; Herbert William Hardy, Charing-cross; John Rayner Hatfield, Leeds; Frederick Charles Hitchins, Guy's; John Howells, London; Herbert Lancaster Laidman, Manchester; Hill Mussenden Leathes, Cambridge; Langford Newman Lloyd, Charing-cross; Sidney Herbert Longhurst, Guy's; Charles Thomas M'Clure, London; Robert M'Kay, private; Herbert Markby, Leeds; Legh Richmond Marshall, St. Mary's; Herbert Robert Miller, Guy's; Frank Parr Monckton, Bristol; Geoffrey Stuart Moore, London; Austin Romuald O'Flaherdie, London; Walter Courtenay Rivers, Charing-cross; William George Silvester, Birmingham; Arthur Lionel Hall Smith, University College; Hugh Victor Smith, Guy's; William Harle Stott, Manchester; Percy Haughton Stratton, Birmingham; Llewellyn Lancelot Graeme Thorpe, University College; Henry William Trewby, Middlesex and private; Edward Ashcroft Tudman, University College; Carr John Aratoon Vertannes, Westminster; William John Howard Williams, St. Mary's; Leonard Wood, Birmingham.

Materia Medica and Pharmacy.—Gulio Daniel Amenábar, Manchester; Sidney Hugh Langston Archer, London; William Harold Graham Aspland, London; Alexander Baker, St. Thomas's; Harold Stevens Basden, Cambridge and private; George Matthews Bennett, Middlesex; Charles Hugh Bidwell, University College; Herbert Blakemore, Manchester; Daniel Lawrance Ernest Bolton, St. Bartholomew's and private; William Stanley Boothman, Manchester and private; George Samuel James Boyd, London; Charles Henry Bradbury, Manchester; John Bardsley Brash, University College; Charles Dudley Francis Burney, Charing-cross; Percy Albert Chilcott, London; Frank Henry Loveless Cloud, Guy's; Herbert Edgcumbe Cock, Guy's; Henry Procter Cox, King's College and private; Harold Sugden Crapper, private; Ernest Edward Crowther, Leeds; George Frederick William Dale, Sheffield; Thomas Ashcroft Ellwood, Charing-cross and private; Dennys Fletcher, St. Bartholomew's and private; Cyril Hobson Flory, Sheffield; John Gorman, Belfast and private; Francis Gaspar Grapel, University College and private; Aubrey Wheeler Haines, Birmingham; Richard Hedden, Guy's and private; Robert William Jameson, St. Bartholomew's; Gwilym Lewis, London; Alexander William Crawford Lindsay, St. Bartholomew's and private; Arnold Edward Lovitt, London; Samuel James Meredith, Birmingham; Sydney Mervyn Meyrick, St. Mary's; William Aubert Montgomery, St. Thomas's; George Yule Myrtle, Leeds; Thomas Strangeways Pigg, St. Bartholomew's; William Henry Pope, St. Bartholomew's; Olaf Fleetwood Pritchard, King's College; John Walter Forbes Rait, University College; Wilson Ranson, St. Thomas's; Arthur Ernest Reiph, private; George Charles Schultz, St. Mary's; Arthur Wilson Shea, Sheffield and private; Arthur Bertram Sibson, Manchester; Arthur Grosart Lehman Smith, Middlesex; Harry James Milbank Smith, Guy's; Richard Davis Stacy, St. Bartholomew's and private; David Stephenson, Leeds; William Harle Stott, Manchester; Albert Ernest Street, Charing-cross and private; Baghos Baghdasar Tahmisian, St. George's; Hubert Hope Thomas, Charing-cross; Paul Cuningham Edward Tribe, King's College; Harry Mostlock Waller, St. Bartholomew's and private; William Ebenezer Waymark, Guy's.

Elementary Anatomy and Elementary Physiology.—Donald Ackland, Charing cross; Alfred Cole Ambrose, Guy's; Charles Thompson Anderson, Guy's; Alfred John Andrew, St. Bartholomew's; Octavius Charles Andrews, Birmingham; Joseph Hugh Arthur, London; Arthur Ogilvie Ashe, King's College; George Ashton, Manchester; Charles Mason Atkinson, University College; Stanley Bean Atkinson, St. Bartholomew's; Frederick John Ayre, St. Mary's; Stanley Noel Babington, St. Thomas's; Ernest Castleigh Bailey, King's College; Gerald Ramsey Baker, St. Bartholomew's; Robert Balderston, Guy's; Ernest Orange Balleine, King's College; Joseph Sandert Barnes, St. Thomas's; David Leslie Beath, St. Bartholomew's; Francis Victor Owen Beit, St. Bartholomew's; Harry Ashley Belbin, Sheffield; Harry Charles Plant Bennett, St. Bartholomew's; William George Bennett, St. Thomas's; Archibald James Bennetts, St. Mary's; William Benton, Charing-cross; Sidney Herbert Berry, Charing-cross; Vernon Kent Blackburn, Sheffield; George Payne Bletchly, Middlesex; Robert Wilfred Bollans, Leeds; Charles Bolton, University College; Ernest John Hamilton Bowen, London; George Edward Bowring, Cambridge and Manchester; John Brock, St. Bartholomew's; Thomas Bromwich, Charing-cross; Robert Pollock Brown, St. Bartholomew's; Thomas Burdekin, University College; Edward Theodore Burton, Birmingham; Sidney George Butler, London; Thomas Aloysius Caley, Leeds; William Carnes, Leeds; Alexander Chaplin, St. George's; Edgar Chatterton, University College; Ernest Philip Chennells, University College; Montague Adye Cholmeley, St. Bartholomew's; Joseph Henry Churchill, St. Bartholomew's; Arthur John Cleveland, Guy's; Martin Clover, University College; Ernest Francis Clowes, Guy's; Edward Howard Collens, Birmingham; Percy Cooper Cole, King's College; Henry Neville Coltart, St. George's; John Morton Sim Coutts, University College; Emilio Frederico Crabtree, St. Bartholomew's; Edward Smyth Crispin, King's College; Alfred Edward Binnington Crosby, Guy's; Harold Robert Cross, Leeds; Duncan Edward Carme, King's College; David Lawford Francis Davies, Middlesex; Edward Cecil Davies, Guy's; Harry Thornber Davies, Birmingham; Thomas John Davies, Middlesex; Ferdinand Lionel Denner, London; George Herbert Dominy, St. Thomas's; Robert Athelstan Draper, Cambridge; James Allen Dredge, St. Bartholomew's; William Norwood East, Guy's; Francis Ryalls Eddison, St. Bartholomew's; Archibald Pottenger Eldred, St. Mary's; Thomas Ashcroft Ellwood, Charing-cross; Harold John Ereaut, Westminster; Alexander Evans, Glasgow; Arthur George Everard, Charing cross; William Ernest Fairweather, Manchester; Henry Hargreave Fawcett, University College; Richard Truman FitzHugh, Guy's; John Edmund Francis, University College; John Owmsworth Garland, Guy's; John Herbert Gartrell, Charing-cross; William Robert Gibson, St Bartholomew's; Leonard Gilbert, St. Thomas's; Francis Philip Gill, Bristol; Frank Wilhelm Goldie, Guy's; Arthur Rowland Greenwood, Middlesex; Frank Redmayne Greenwood, Birmingham; David Roger Thomas Griffiths, Guy's; Edmund Marshall Gwynn, Middlesex; Herbert William Hardy, Charing-cross; Thomas Campbell Harmer, London; George Harrison, Liverpool; Harold Charles Harrison, St. Bartholomew's; James Victor Hartley, Leeds; Arthur Charles Haslam, St. Thomas's; Francis Joseph Haslacher, King's College; Sidney Oldall Hatherley, Sheffield; William Leslie Hay, King's College; George Secretan Haynes, St. Bartholomew's; Richard Lovell Head St. Thomas's; John Philip Edmund Henery, St. George's; Rowland Wilbraham Hill, Manchester; Cortis Rawsthorne Hodgson, Guy's; Thomas Jeeves Horder, St. Bartholomew's; Alfred Howell, St. Mary's; Gerald Dalziel Howlett, St. Thomas's; Corrie Hudson, Charing-cross; Albert Henry Hughes, Bristol; William John Humby, Middlesex; Spencer Hunt, St. Bartholomew's; Frank Smallpage Hunter, Birmingham; Harley James Hunter, St. Bartholomew's; Llewellyn Herbert Hurst, Guy's; Herbert William Jackson, University College; Henry James, St. Bartholomew's; Arthur Edward Jerman, Westminster; Herbert Charlton Jonas, St. Thomas's; Arthur

Reginald Jones, St. Thomas's; David Thomas Jones, Middlesex; Charles Voughton Knight, St. Bartholomew's; Norman Lavers, Guy's; Frederick William Lee, Guy's; Alfred James Andrew Lennane, University College; Lewis Francis Leslie, London; Joshua Levi, Leeds; William Liversidge, University College; Langford Newman Lloyd, Charing-cross; Fred Lodge, Leeds; Alfred Lomas, Manchester; Ernest Ward Lowry, St. Bartholomew's; Stephen Frederick Lynch, King's College; Charles Thomas McClure, London; George Comyns Marrack, St. Bartholomew's; Herbert James Marriage, St. Thomas's; Francis Henry Maturin, Cambridge; Patrick Alpin James Maver, King's College; James Laidlaw Maxwell, St. Bartholomew's; Robert William Mayston, Guy's; John Alfred Mellish, St. George's; Herbert Robert Miller, Guy's; Arthur Henry Macneill Mitchell, St. Mary's; Guy Naesmith Mottram, Guy's; Edwin Henry Mountford, Charing-cross; Herbert Mundy, St. Bartholomew's; Charles Rowley Nicholson, Guy's; Alexander Campbell Nicol, Leeds; Maurice Joseph Nolan, St. Thomas's; Walter Salmon Nowell, Middlesex; Alexander Wemyss Oxley, University College; Charles John Linton Palmer, Liverpool; Arthur Bradshaw Passmore, Guy's; Alfred Ernest Payne, St. Mary's; John Henry Pegg, St. Thomas's; Harry Diamond Peile, Guy's; William Hall Peile, University College; Austin William Powell, Guy's; Francis Edward Price, St. Bartholomew's; Herbert John Relph, Middlesex; Graham Renshaw, Manchester; William Jones Richards, St. Bartholomew's; Arthur Trevor Richardson-Jones, Oxford and King's College; Sidney Roach, St. Bartholomew's; Horace Rose, St. Mary's; Samuel Frank Rose, Middlesex; Alexander Michael Ross, King's College; John Stuart Ross, Manchester; Rowland John Rowland, Guy's; Robert Sibbald Rowland, Guy's; Robert Pugh Rowlands, Guy's; Arthur Montague Rygate, Guy's; Alfred George Sargent, St. Mary's; James Percival Scatchard, St. Thomas's; Ernest Harold Scott, St. Thomas's; Charles Gabriel Seligmann, St. Thomas's; Thomas Blanchard Sellors, Middlesex; Henry Priest Shanks University College; Alfred Walter Sikes, St. Thomas's; Charles Charnock Smith, Middlesex; Gilbert Smith, St. Bartholomew's; Montague Smith, Middlesex; Sidney Robert Smith, Westminster; Walter Hugh Montgomery Smith, Guy's; Edmund Ivens Spriggs, Guy's; Percy Bertram Spurgin, St. Mary's; Edward William Stabb-Johnson, Guy's; Hubert John Starling, Guy's; Charles Cuthbert Ingram Turnbull, Cambridge and St. Bartholomew's; Henry Watson Turner, Middlesex; James William Turner, Birmingham; Wentworth Francis Tyndale, St. George's; Joseph Herbert Waddington, Leeds; James Williamson Wallace, Bristol; Sidney James Wareham, Charing-cross; Henry James Weston, St. Bartholomew's; Clarence Barns Whitehead, St. Mary's; Lorenzo Whitfield, Birmingham; Richard Loy Wilcox, University College; Arthur Wilfrid Wilkinson, St. Bartholomew's; Ralph Paul Williams, King's College; Bertram Shera Wills, St. Thomas's; Alexander Gordon Wilson, London; William Bird Herapath Wood, Birmingham; Elliot Wilson Woodbridge, St Bartholomew's; Charles Percy Woodstock, Glasgow; George Vigers Worthington, Cambridge; Charles Clifford Worts, Guy's.

Elementary Anatomy only.—Marcus Anslow Alabone, Guy's; Albert Ernest Blades, Sheffield Medical School; Charles Scott Brockhouse, Guy's; George Minter Brown, Guy's; Edwin Fryer, Guy's; Frederick Field Lawrence How, Edinburgh University; Bertram Eustace Laurence, St. Bartholomew's; Frank Ewart Manning, University College.

Elementary Physiology only—Edward Quaid Ambrose, London; Walter Amsden, St. Bartholomew's; Frederick Cairns Blakiston, St. Thomas's; Harold John Hutchens, St. Bartholomew's; Joseph Russell Jeaffreson, St. Bartholomew's; Robert Orford Jones, Guy's; Frederick Charles Rienzi Knight, Guy's; John Reginald Lambert, Yorkshire College, Leeds; George Robert Lucas, Edinburgh University; Herbert Markby, Yorkshire College, Leeds; Henry Charles Mearock, St. Thomas's; Walter Naylor, Charing-cross; Lionel Edmund Longworth Parker, St. George's; Joseph Kennerley Pedley, Guy's; Christopher Trehane Pellow, St. Thomas's; George Charles Dudley Rice, Cambridge University; Reginald Thomas Richmond, Cambridge University; John Hugh Ripon Robinson, London; James Sandison, London; John William Basil Syers, Middlesex; George Lestock Thornton, Cambridge University; Horatio John Turner, St. Thomas's.

Passed the Second Examination of the Board on the 11th inst.:

Anatomy and Physiology.—John W. Myler, William H. Wykes, William F. V. Bonney, Alan C. Turner, Emile D. Aubin and Frederick J. F. Rooke, students, Middlesex Hospital; Edmond G. Mayo, Wallace C. G. Ashdowne, Ernest G. Hill and George R. Elwin, St. Mary's Hospital; Laurence E. Creasy and Harold B. Shaw, University College; Arthur R. Fry, Francis T. Waldron, Gerald B. Mason, Henry C. Dixon and William H. Daw, London Hospital; John N. B. Vise and Christopher R. Kempster, Westminster Hospital; John A. Spear and Sydney P. Huggins, St. Bartholomew's Hospital; Alfred J. Martineau and John C. Harcourt, St. Thomas's Hospital.

Anatomy only.—James G. Wallis, London Hospital; Leonard F. Marks, St. Bartholomew's Hospital; Edward H. Sweet and Hubert O. B. Browne-Mason, St. Mary's Hospital; Hugh M. Case and Walter D. Perry, Middlesex Hospital.

Physiology only.—James H. F. Nunn, St. Bartholomew's Hospital; Walter B. Maurice, St. Mary's Hospital; Charles G. Burton, Guy's Hospital; and Arthur M. Connell, University College.

Nine candidates were referred in both subjects, four in Anatomy only and six in Physiology only.

Passed on the 12th inst.:—

Anatomy and Physiology.—John P. Maxwell and Rupert Waterhouse, St. Bartholomew's Hospital; Arthur G. Butler, Guy's Hospital; Henry Sugden and Percy S. Lelean, St. Mary's Hospital; Albert J. Smith and Francis Riley, Westminster Hospital; William Gabe and James Eddy, Middlesex Hospital; John S. Hall, St. Thomas's Hospital; L. Stonstadt Hughes, Evan Thomas, and Percy D. Barker, University College; John T. R. Cook, Melbourne University; Daniel O. Sullivan and Herbert Innes, London Hospital.

Anatomy only.—Harold Leader, Guy's Hospital; and William O. Beddard, St. Thomas's Hospital.

Physiology only—William C. Stanham, London Hospital; James Clarke and James J. Edwards, St. Mary's Hospital; William Wrangham, Edward H. Betts and William M. MacDonald, St. Bartholomew's Hospital.

Eleven candidates were referred in both subjects, six in Anatomy only and two in Physiology only.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE.

The following candidates have satisfied the Examiners at the First Examination for the degree of Bachelor in Medicine:—

ELEMENTARY ANATOMY AND PHYSIOLOGY, CHEMISTRY WITH CHEMICAL PHYSICS, AND BOTANY WITH MEDICAL BOTANY.

Pass-list.—Walter Osborne Arnold and Norman Sheridan, College of Medicine, Newcastle-on-Tyne; Henry Atherton Crossfield, St. Thomas's Hospital; Arthur Bradshaw Passmore, Guy's Hospital.

Elementary Anatomy and Physiology.—Ernest Bramley, Sheffield School of Medicine; Arthur Bryans, Alfred Thornhill Greenhill, Henry Herbert Markham, and Gideon Wm. Barker Marsh, B.A., College of Medicine, Newcastle-on-Tyne.

Chemistry with Chemical Physics and Botany with Medical Botany.—William Henry Brown, Mason College, Birmingham; Percy Evans, M.R.C.S., L.R.C.P., University College, London; Harry Fagg, Maynard Varey, and William Henry Warwick, College of Medicine, Newcastle on Tyne; Ernest Edward Frazer, M.R.C.S., L.R.C.P., L.S.A., Guy's Hospital; Sebert Francis St. David's Green, M.R.C.S., L.R.C.P., and Richard Liddon Meade-King, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Frederick Charles James, Howard Percy Kennard, and Savignac Bell Stedman, St. Thomas's Hospital; Richard Oswald Mather, Liverpool School of Medicine; James Ward Summerhayes, St. Mary's Hospital.

Botany with Medical Botany.—Walter Augustus Peverley, College of Medicine, Newcastle-on-Tyne; Henry Bertram Rygate, M.R.C.S., L.R.C.P., Guy's Hospital.

UNDER THE NEW REGULATIONS.

ELEMENTARY ANATOMY AND BIOLOGY, CHEMISTRY AND PHYSICS.

First Class Honours.—Albert Garthorne Widdowfield Pearson, College of Medicine, Newcastle-on-Tyne.

Second Class Honours.—William Simpson, Charles Salkeld, B.A., and Percy Holgate, College of Medicine, Newcastle-on-Tyne.

Pass-list.—John Lowry and Gordon Stonehouse, College of Medicine, Newcastle-on-Tyne.

CHEMISTRY AND PHYSICS.

Mervyn Alexander Archdall, College of Medicine, Newcastle-on-Tyne; Howard Henry Congreve Dent, Mason College, Birmingham.

UNIVERSITY OF GLASGOW.

—The following gentlemen have passed the third professional examination for the degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.):—

(A) including Pathology.—Robert Bruce, Edward Napier Burnett, Joseph M'Naughtan Christie, John Donald, Thomas Blackadder Gilchrist Clarence Barrymore Harrison, James Jack Adam Kay, Thomas Kay, James Lang, John Masterton, John Colin Matheson, Duncan M'Fayden Millar, Joseph M'Feat, James Campbell M'Neillie, Allan M'Lean Robertson, John Crawford Robertson, Geddes Graham Russell, William Salmond, Archibald Neil Sinclair, Robert Tennent.

(B) not including Pathology.—William Thomas Ainsworth, Henry Albert Bodeker, Thomas Scott Brodie, Archibald Campbell, Daniel George Carmichael, Thomas Crossan, Henry Davies, Alexander Dingwall, M.A., David Dinwoodie, William Moyes Duff, William Cameron Faulds, George Wilmore Francis, Charles Lorn Stuart Gibson, Ernest William Graham, George Innes, M.A., Peter Marshall, William Edgar Macharg, Alexander Macpball, John Cormack Paterson, Daniel Evans Powell, John Robertson, Joseph Scott, William Shedden, Thomas David Smith, James Wells.

NURSES' COÖPERATION CLUB.

—A new work has been started quite lately by the Lady Superintendent of Beresford House, Beaumont-street, W., in the shape of a Nurses' Coöperation Club, which has been joined in large numbers by nurses who are desirous of earning their own fees (less a small percentage). Nurses trained for any sort of illness, and also daily nurses, are sent out.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.

—The directors of this Society held a quarterly court on Wednesday, April 12th, the President, Sir James Paget, in the chair. Five new members were elected, and the deaths of three members were reported. A first application for assistance was read from a widow and relief was given. The death of a widow was announced who had received £1094, her husband having paid only 14 guineas as subscriptions to the Society. Applications for grants were read from fifty-six persons, including ten orphans, and four orphans on the Copeland Fund, and it was recommended that £1245 be distributed at the next court. The expenses of the quarter were £59. During the last year seven widows died who had received between them the large sum of £4537, their husbands having paid £203 to the funds of the Society. Nine gentlemen were nominated for election as directors at the annual general meeting to fill the vacancies caused by death, resignation and the retirement of the six senior directors. The annual general meeting was fixed to be held on May 19th at five o'clock.

MEDICAL MAGISTRATES.—Mr. Henry William Freeman, F.R.C.S.I., of Bath, and Dr. W. L. Winterbotham of Bridgwater have been added to the Commission of the Peace for the county of Somerset.—On the recommendation of the Duke of Westminster, the Lord-Lieutenant of the county, the Lord Chancellor has appointed Dr. Ralph Gooding, F.L.S., of Blackheath, a Justice of the Peace for the county of London.—Mr. James H. C. Goulden, L.F.P.S., L.M.Glasg., has been placed on the Commission of the Peace for the borough of Stockport.

ÆSCULAPIUS LODGE OF FREEMASONS No. 2410.—The last meeting of this successful Masonic Lodge took place at the Café Royal on the 12th inst. Bro. Deputy-Inspector-General Belgrave Ninnis, M.D., presided, supported by the officers, a large number of members and some visitors. Bro. Frank Fowler, M.R.C.S. Eng., L.R.C.P. Edin., was admitted to the third degree. Bro. F. Ernest Pocock, M.D., P.M., was unanimously elected Master for the ensuing year. Bro. G. Danford Thomas, M.D., was re-elected treasurer; Bro. Thomas Dutton, M.D., P.M., secretary; and Bros. H. W. Kiallmark, P.M., and E. H. Ezard, M.D., auditors. The brethren afterwards sat down to a capital dinner and enjoyed a pleasant social evening, when the Royal and Masonic toasts were duly honoured. As it was the last time W. Bro. Belgrave Ninnis would preside at the festive board, his health was toasted very cordially and with musical honours, Bro. Lennox Browne reminding the brethren that they not only had a very distinguished Mason to rule over them, but one who had seen service all over the world, who was one of the members of the last Arctic Expedition, and who was an ornament to the service to which he belonged.

EAST LONDON HOSPITAL FOR CHILDREN.—The Duke of Cambridge on Tuesday evening last took the chair at the fourteenth festival dinner, held in the Whitehall Rooms of the Hôtel Métropole, in aid of the funds of the East London Hospital for Children, Shadwell. The present building, containing 102 beds, was opened in 1877 by the Duchess of Teck. Mr. Charles Cheston, in replying to the toast of the evening, said that the hospital had received £1700 from Baron Hirsch during the past year. Mr. Cowell proposed "The Board of Management and Medical Staff" in the absence of Mr. Alderman Morgan, to which the Earl of Errol replied on behalf of the board of management and Dr. H. J. Campbell for the medical staff. The toast of "The Chairman" was proposed by Mr. Cheston, to whom the hospital is largely indebted for long services as chairman of the board of management and for much pecuniary assistance. During the evening the secretary, Mr. S. Whitford, announced donations to the amount of £1200. Some excellent music was afforded by Miss Alice Swinfen, Mr. Dalgety Henderson and Mr. Sackville Evans.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY, LIMITED.—Dr. Brodie Sewell took the chair at a largely-attended meeting of the West London Division, No. 2, held at 429, Strand, on Monday, April 10th, for the purpose of organising a branch of this Society for West London, many leading men of all branches of the profession having expressed their intention of supporting it. The chairman explained the object of the Society and stated his conviction of its usefulness and necessity to those engaged in consulting practice, in general practice and in dentistry. Mr. Mead, the organising secretary, gave a detailed account of the working of the Society, and Dr. Heron, the treasurer, and Dr. Cleveland, a vice-president of the central council, gave favourable accounts of the financial and numerical strength of the Society. Dr. Brodie Sewell was then elected president of the division. The vice-presidents elected were: Sir Spencer Wells, Dr. Braxton Hicks, Dr. Lionel Beale, Dr. Cheadle, Dr. Cecil Biss, Dr. Goodhart, Mr. Walter Jacobson, Mr. Henry Juler, Mr. William Hickman, Mr. Mark Hovell, Mr. Samuel Mills, Dr. Laking, Mr. Cripps Lawrence, Dr. Arthur Orwin, Dr. Propert and Mr. Parker Young. The following were elected members of the council: Dr. A. J. G. Cross, Dr. Hamerton, Mr. Augustus Harbord, Mr. Herbert Allingham, Dr. Bullock, Dr. W. R. Holmes, Dr. Younger, Dr. Basil Walker and Mr. Edward Bartlett, L.D.S. Dr. Septimus Sunderland was elected honorary secretary for the division.

DELANCEY FEVER HOSPITAL.—The report of the committee of management for the past year refers to the extensive spread of scarlet fever which had prevailed during 1892, from which Cheltenham had suffered in common with other districts. No less than 259 cases of that disease had been treated in the hospital, so that the accommodation provided for patients was found to be inadequate to meet the emergency. A temporary structure was therefore erected in connexion with the permanent building. The report refers to two important communications, one drawn up by the town council of Cheltenham, the other by Dr. Garrett, the medical officer of health, expressing his views as to the necessity of permanent accommodation for infectious disease required for the town as well as for the outlying districts.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL.—Winter Session, 1892–3. The awards of scholarships, medals and prizes were as follows:—First year: The William Tite Scholarship (£27 10*s.*) to A. W. Sikes of Garrycloyne, Blarney; College Prize (£20) to J. P. Scatchard of Boston Spa; College Prize (£10) divided between C. G. Seligmann of Maida-vale and L. Gilbert of Finchley-road. Second year: The Musgrove Scholarship (£38 10*s.*) to M. Takayasu of Osaka, Japan; College Prize (£20) to A. J. Martineau of Lupus-street; College Prize (£10) to A. H. Stewart of Regent's-park. Third year: The Peacock Scholarship (£38 10*s.*) and the College Prize (£20) to G. G. Genge of Croydon; College Prize (£15) to E. L. Perry of St. George's-square; College Prize (£10) divided between W. E. F. Tinley of Whitby and E. O. Thurston of Panton-street. Fourth year: The Mead Medal to E. A. Saunders of Balham; the Cheselden Medal and the Treasurer's Gold Medal to S. W. F. Richardson of Whitby.

THE LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY: A BOGUS SURGEON.—At Bishop Auckland, on Thursday, April 13th, William Todd of Evenwood was charged with wilfully and falsely assuming the title of "surgeon." Mr. H. Gawan-Taylor, barrister (instructed by Mr. J. H. Holmes of Barnard Castle), prosecuted on behalf of the London and Counties Medical Protection Society, Limited. Mr. Barningham of Barnard Castle defended. It was contended that Mr. Todd was not a common quack, having received some medical training. The bench fined Mr. Todd £1 and £2 2*s.* costs. This leniency of the magistrates probably arose from their ignorance of the fact that the fine is intended to cover the expense of prosecuting in such cases. If the public attempt to throw the cost of these prosecutions on the medical profession, as in the above case, they will probably be left to the tender mercy of the charlatans for whom they betray such profound sympathy.

THE BIRMINGHAM GENERAL HOSPITAL: TESTIMONIAL TO MR. PEMBERTON.—At an adjourned meeting of the governors of this hospital the election of a president took place, when the Earl of Dartmouth was chosen to occupy the presidential chair for the next two years. The event, however, which chiefly occupied the time of the meeting was the presentation of a testimonial to Mr. Oliver Pemberton, who became attached to the hospital in 1847, first as physician's assistant, then as resident medical and surgical officer, and finally, in 1852, as full surgeon. The testimonial consisted of a portrait of the recipient painted in oil and bearing the written signatures of the subscribers to the testimonial. Mr. Pemberton, in a few chosen words, tendered his thanks to the donors of the gift and gave some reminiscences of the distinguished men, lay and medical, who had in the past assisted in placing the charity in the proud position it now occupies. Other speeches followed, the burden of which was the appreciation in which Mr. Pemberton was held by his colleagues as well as by all the officials connected with the institution.

NOTES IN PARLIAMENT.

Habitual Drunkards.

IN the course of next week Mr. Knowles will move for a return of the evidence taken before the Departmental Committee of the Home Office relating to habitual drunkards, and of the report of the Committee.

The Sale of Food and Drugs.

The rejection of the Sale of Food and Drugs Act (1875) &c. Amendment Bill will be moved by Mr. Tatton Egerton. Meantime there is little prospect of the Bill being reached.

Sanitary Registration Bill.

Petitions against this Bill have been presented from Glasgow and Liverpool.

Police and Sanitary Regulations.

Dr. Farquharson, Dr. Tanner and Mr. Yerburgh have withdrawn from the Select Committee of the House of Commons on Police and Sanitary Regulations, and in their place Mr. Diamond, Mr. Hornby and Mr. Wason have been appointed.

Meal Hours in Factories.

This subject, to which we referred in an annotation last week, was brought under the notice of the Home Secretary by Mr. J. Burns, who referred to the holding of an inquest at Guy's Hospital on the death of a work-girl lately employed at a jam factory.—Mr. Asquith said he had been informed that it had been the custom in many firms to forbid the employés from leaving the premises during the dinner hour, but this prohibition had, in one firm at least, been withdrawn, and this course would, he said, be probably followed by other firms. On the 17th inst. the subject was again brought forward by Mr. Burns, who asked the Home Secretary if, under the Factory Act, he could issue a regulation that no employer should be allowed to confine his workpeople during meal hours. Mr. Asquith said he had no power to make such an order, but as to whether the practice was legal or not he would offer no opinion.

Vaccination.

On the 14th inst. Mr. Hopwood gave notice of his intention to move a resolution anent the law and practice of vaccination.

The Manufacture of Lucifer Matches.

Mr. Asquith, in reply to a question put by Mr. MacNeill in reference to a girl employed at Messrs. Bryant and May's, and who had been admitted to St. Bartholomew's Hospital for necrosis of the jaw, said that cases of the same disease which had been previously reported had been visited by Her Majesty's inspector, and as a result special rules had been adopted, which were at present in force. Considerable alterations had, he said, been made in the factory referred to. The question of the use of white phosphorus in the manufacture of matches was being kept in view by the Government.

Protection of Infant Life.

Mr. Benn asked if the attention of the Home Secretary had been directed to the remarks made by Mr. Justice Hawkins in a case brought before him, in which a woman was indicted for the manslaughter of an infant under her care, but in which the judge stated that the Infant Life Protection Act did not extend its protection to places where one infant only is kept.—Mr. Asquith said he believed the matter was dealt with in a Bill which was introduced in 1890, and was referred to a Select Committee, but the application of the measure was found to be so restricted that it was not thought expedient to proceed with the Bill. He regretted that the Government had not had time or opportunity to introduce a measure for dealing with the matter, but should the hon. member introduce a Bill on the subject he (Mr. Asquith) would promise to give it favourable consideration.

The Cost of Providing against the Importation of Cholera.

On the 17th inst. Mr. Heneage asked the Chancellor of the Exchequer whether he would consider the advisability of the Treasury contributing to the expenditure incurred by the ratepayers of seaport towns for providing against the importation of cholera.—Sir J. Hibbert was requested by the Chancellor to say that he did not think it possible to give effect to the proposal suggested in the question.

The Contagious Diseases Act in India.

Mr. G. Russell said, in reply to a question put by Mr. Webb, that a departmental committee had been appointed for the purpose of inquiring into the rules, regulations and practice in the Indian cantonments and elsewhere in India with regard to the treatment of venereal diseases, in order to ascertain how far they accord with the resolution of the House of Commons of June 5th, 1888. That resolution was to the effect that any mere suspension of measures for the compulsory examination of prostitutes, and for the licensing and regulating prostitution in India was insufficient, and the legislation which authorises or permits such measures should be repealed.

Surgical Instruments at Military Hospitals.

Mr. Weir asked if it were true that surgical instruments and apparatus used at military hospitals had to be largely supplied at the expense of the medical staff.—Mr. Campbell Bannerman said he had made inquiries and had found that the statement as reported was without foundation.

Diseases of Animals.

On the 18th inst. Mr. Gardner replied to two questions on this subject, the one by Mr. Leng, the second by Mr. Fellowes. To the former question Mr. Gardner said he had issued an order prescribing certain regulations to be observed in connexion with the examination of the lungs of cattle imported from Canada. Facilities would be given, if desired, to enable veterinary surgeons to inspect the lungs of such animals. With regard to the second question, Mr. Gardner said he understood that the departmental committee on swine fever had completed their inquiry and he hoped to be in a position to lay their report on the table before the end of the month.

Inquiries into Deaths in Scotland.

In reply to a question put by Mr. John Leng on Thursday, the Lord Advocate said he was aware that there was a prevalent desire in Scotland that public inquiries should be held in regard to deaths resulting from accidents occurring in industrial employments and it was intended to introduce a Bill dealing with the subject during the present session.

Hospitals for Infectious Diseases.

In answer to Captain Fenwick, Mr. Fowler, the President of the Local Government Board, said that that Board were continually impressing upon local authorities the desirability of providing hospital accommodation of a permanent character. Too frequently they did not take action until there was a serious outbreak of infectious disease, and then buildings were put up which could only be regarded as emergency buildings. It was not the practice of the Board to sanction a loan in these cases.

Medical Officers of Health in Scotland and Private Practice.

In reply to a question put by Mr Weir on Thursday, Sir George Trevelyan said that there were various counties in Scotland in which the medical officer of health was not restricted from private practice. He held the view that Parliament had constituted the county councils the judges of whether or not the medical officers should be permitted to take practice, and, if so, to what extent, and he was therefore not prepared to deal exceptionally with the county of Ross and Cromarty.

The Food and Drugs Acts.

Mr. de Tatton Egerton asked the President of the Local Government Board, in view of the inefficient carrying out of the Food and Drugs (1875) Act and Amendment Act, and to the unsatisfactory results of prosecutions undertaken under their provisions, whether he would grant a Select Committee to inquire into the whole subject with a view to suggesting such amendment of the Acts as would render them more workable and efficient.—Mr. Fowler replied that a Bill for the amendment of these Acts was now before the House, and the Government proposed to assent to its second reading on the distinct understanding that it should be referred to a select committee. This, perhaps, would meet the view of the hon. member. It would be within the power of the committee, after hearing evidence and going through the provisions, to introduce into the Bill such clauses as they thought desirable.

DEATH CERTIFICATION.

THE EVIDENCE OF THE REGISTRAR-GENERAL AND OTHER WITNESSES.

THE Select Committee of the House of Commons on Death Certification began its inquiry at Westminster on Friday. The Committee consists of Sir Walter Foster (chairman), Mr. Arch, Mr. Brookfield, Dr. Cameron, Dr. Farquharson, Mr. Hozier, Mr. Heywood Johnstone, Sir Thomas Lea, Mr. MacNeill, Sir Stafford Northcote and Sir Henry Roscoe.

SIR BRYDGES HENNIKER, Registrar-General for Births, Deaths and Marriages in England and Wales, examined by the Chairman, said that practically all the deaths occurring in these two countries came under his cognisance. He had with him the report for 1891, the last year for which there were completed returns. In it he found that there were 587,925 deaths registered. In the case of 539,341, or 91·8 per cent., they were certified by registered medical practitioners; in the case of 32,432, or 5·5 per cent., they were certified after coroners' inquests; whilst as to the remainder, 16,152, or 2·7 per cent., they were not certified. This last percentage, he might say, showed a further step in the progressive decline noted in previous reports. In 1881 the percentage was 4·1; in 1882, 3·9; in 1883, 3·7; in 1884, 3·6; in 1885, 3·5; in 1886, 3·4; in 1887, 3·3; in 1888, 3·1; in 1889, 2·9; in 1890, 2·8; in 1891, 2·7; and in 1892, 2·7. As to explaining the decline, he could only say that the people were becoming more educated as to the advantage of employing registered medical practitioners. Quoting again from his report, he found that there were 26,140 cases, or 4·4 per cent. of the total, where the cause of death was ill-defined or unspecified. The percentage was slightly less than in 1890. Although these certificates were not satisfactory they were certainly more valuable than none at all. In the allocation of the different cases he depended on the judgment of his medical adviser. There came under his observation cases in which a certificate was given by the medical man, cases in which the burial took place under the order of the coroner, and cases in which the certificate for burial was given by one of his registrars. A set of regulations was issued to the registrars. In the case of the death of any person who had been attended by a registered medical practitioner, that practitioner must sign and give to some person qualified by the Registration Acts a certificate stating to the best of his knowledge and belief the cause of death. This obligation was placed upon the registered medical practitioner by statute and he received no fee. At any rate, there was no fee provided for him under the Act, although he was not certain that he received no fee. Then he furnished to every registrar a printed form of certificate, which the registrar in his turn handed to the registered medical practitioners in his district. This certificate formed the basis of the vital statistics. Upon the strength of it the registrar issued the certificate of burial, which went to the relatives or some person who was responsible for the burial. The certificate was not absolutely necessary for interment. He presumed that under the common law interment could take place without it; but the person who was responsible for the interment was bound to give notice within seven days to the registrar of the burial having taken place without certificate. There was therefore practically no loophole by which an interment might escape his office.

By Sir Stafford Northcote: The person who conducted the service or he who was responsible for the funeral must see to the notice.

By Mr. Brookfield: The undertaker had no duty in this connexion.

By Sir Henry Roscoe: The section provided that the person who buried or performed any funeral or religious service for the burial of any dead body as to which no order or certificate under the section was delivered to him should within seven days give notice to the registrar, and if he failed so to do would be liable to a penalty not exceeding £10.

By the Chairman: There were cases in which the registrar was bound to refer to the coroner. Where an inquest was held a medical certificate as to the cause of death need not be given to the registrar—the certificate of the finding of the jury was a sufficient certificate. Upon that certificate the registrar issued his certificate for burial. Where there was neither a certificate from a medical man nor a coroner's inquest the registrar must take the best evidence he could get. If he had any doubt or suspicion, or if the death was said to be sudden or violent or due to foul play, then he must report the death to the coroner. If there was no suspicious evidence in the case he must accept the statement of the informer and upon that draw up the certificate, which of course would show that death had not been certified by a medical man. He was aware that there was a certain class of cases in which information was given only within twelve months of the decease. Every

effort was made to prevent such a thing occurring, but if it was discovered that a death had occurred it must then be registered on the best information that could be obtained. There were not many such cases. If there was a lapse of time at all approaching twelve months the registrar would communicate with the head office before registering the death. A medical man was liable to a penalty of 40s. if he did not give a certificate in respect of a person he had attended. If he gave a false certificate he was liable on summary conviction to a fine of £10, and if he was proceeded against by indictment he was liable to seven years' imprisonment. When any difficulty arose in the mind of a medical man he could always refer to the registrar. In the event of the registrar ascertaining that a person had been attended by a registered medical practitioner, and that the latter had declined to give a certificate of the cause of death, he would first of all apply to the practitioner to know why he declined, and if he still declined without good reason the registrar would refer to the coroner. He certainly had knowledge of certificates being improperly given. Never a year passed in which he did not have to prosecute some practitioner for giving false information in a certificate. The average number of such cases would be about six per annum. Sometimes it was the case of a doctor saying that he had attended the deceased when he had not. More commonly it was a case of covering—that was to say, a registered medical practitioner employed an unqualified assistant, the latter attending the patient and the former asserting that he had attended. Such cases were not easy of detection. There was no provision in the certificates for the identification of the deceased, and here no doubt a door was open for fraud. A curious case came to his notice only the other day. A woman went to a registered medical practitioner and stated that another woman was very ill, and asked him to go and see her. The doctor went at once and he did find a woman very ill with bronchitis. On the following morning the same woman came to him and said her "poor relative died last night after you left," and asked for a certificate of death. The doctor, having seen the patient on the previous day and being informed that she was dead, filled up a certificate attributing death to bronchitis. The certificate thus obtained was taken by the woman to the registrar, who gave her one of his certificates, with which she went to an insurance office and obtained a certain sum of money. About a week after the same medical man was asked to attend at the same address, a man this time, and there he found, true enough, a man who was ill. Again the information came the following morning that he had died and a certificate was asked for, but the suspicion of the medical man was now aroused and he refused to give a certificate. He reported the matter to the police. Although the matter was still under investigation, he (Sir Brydges Henniker) was already convinced that it was a case of fraud. He did not see at present how they could detect the parties. They had discovered that the woman whose name was given to them had been in the workhouse for ten years and that her life was insured. In reply to the question of the Chairman, "Was there any dead body in either instance?" witness replied that the medical man did not see any body. The case occurred in a large and populous district, and it was very difficult for them to put their hand on the woman. The registrar, moreover, could not identify her. In a small community where the registrar knew everybody detection would be simple. The case, however, was still before him.

The Chairman: It appears to me that there are two possibilities of fraud; first of all, as to the identity of the body, and, secondly, as to the granting of the certificate.

Sir Brydges Henniker: There is no certainty that there is a body.

The Chairman: The present system is defective as regards the identity of the body with the person named in the certificate?

Sir Brydges Henniker: I am not prepared to say that it is not defective. It is defective in the identity of the person in populous districts; I make that reservation.

The Chairman: And it is also possible that a certificate may be issued by a medical man, taken to your registrar and used for other persons when there is no dead body at all.

Sir Brydges Henniker: Quite possible. In further examination witness said it must be borne in mind that no medical man was obliged to use the certificate forms issued by his office. He might, and in some cases he did, draw up forms of his own. Medical men were very shy of this particular—"I last saw her or him." They left it out and he could not compel them in the matter. His suggestion was that it should be obligatory upon all registered medical practitioners to use the certificate forms issued by the Registrar-General. He would further suggest that they should not use them for any other purpose than registering death. At present he could not stop a great number of medical practitioners from giving a copy of the certificate for the purpose of obtaining money from an insurance office. This was largely done. If his suggestion were adopted people would be compelled to go to the registrar for a certificate, and that was what the Act required. The Friendly Societies Act said that all registered societies should not pay money unless upon the production of the certificate of death of the registrar. It was true that the fee would go to the registrar instead of to the doctor. The whole emoluments of the registrar were derived from fees. A medical man might issue some hundreds of these certificates every year for insurance purposes, but in doing so he did what was strongly forbidden by the Act of Parliament. Unfortunately, however, there was no penalty provided. The registrar would get 2s. 6d. for each certificate, with 1s. for the search. When he issued his certificate forms he expressly stated for what purpose they were intended, but, all the same, medical men used them for other purposes of their own. He thought it very desirable that there should be some definition of the words "during his or her last illness." Difficulties were constantly cropping up as to what constituted the last illness. In a case of cancer, for instance, a medical man might attend a patient for years and yet he might not see the patient within six months of his death. That patient might die of anything. He might be poisoned, and the medical practitioner had a right to say that he attended him during his last illness. Such a definition as he proposed would be a preventive of fraud, and would be the means of obtaining more exact scientific information as to the cause of death. He could not conceal from himself the very great danger of a certificate being given when a doctor had not seen the patient for six months. In addition to more accuracy as to the cause of death, he wanted less laxity on the part of medical men in filling up the certificates. In the case of coroners' inquests he supplied a form to the coroner, but the coroner was not bound to use that form, and, again, he thought there should be absolute uniformity. The coroner reported in certain cases that it was not necessary to hold an inquest, and in such cases the registrar was not bound to register. The registrar must make the same inquiry as he did regarding an uncertified death. Let them suppose a case was certified and the registrar thought there was suspicion about it. He submitted it to the coroner, who said that no inquest was needed. In such circumstances the death would be registered upon the certificate of the medical man who had certified it. All that took place with the coroner was of no consequence unless an inquest was held. They found great difficulty in registering deaths in large institutions, where he found great laxity to prevail. Only the other day a remarkable case occurred. His examiners found a case in an institution where a woman aged forty-seven was recorded to have died of "senile decay." Inquiry was made of the medical attendant (who happened to be a lady) as to how she reconciled senile decay with the age of forty-seven. He mildly pointed out the inconsistency of the statement and asked her to be more careful in the future. She replied that it was no part of her duty to fill up particulars in the certificates, that she declined to take the responsibility, and that he must look to the master of the workhouse. The position he (Sir Brydges Henniker) took up was that if a doctor signed a certificate he was responsible for all it contained, but he was afraid he could not get any lady to admit that that was correct. Every year a great deal of the time of the office was occupied in looking after these ill defined cases.

By Mr. MacNeill: The workhouse in question was that of the Charlton Union, near Manchester, and the explanation of the matter was that the age should have been sixty-four instead of forty-seven years.

By the Chairman: In the case of hospitals carried on by medical men, as well as other institutions, their instructions were to obtain certificates as to the cause of death from the medical superintendent. They could not do otherwise than trust them. They could not go behind their certificates, unless they had the evidence of what they might call a "primary informer."

By Sir Henry Roscoe: He attributed the false certificates of medical men more to carelessness than to anything else. These gentlemen often had too much to do and they did not consider the importance of this matter; and he thought there was greater carelessness in public institutions than in private practice. He was afraid that too often they left to some subordinate the task of getting particulars for which, although they did not think it, they themselves were responsible. He did not think anything more could be said on that point on the certificate forms; they were sufficiently explicit. All that was wanted was that medical men should attend to the matter. The definition of the last illness was a medical question. He might say a fortnight, but if that were strongly objected to by medical men, he would not be prepared to say that it should not be a more lengthy period. Asked whether he could obtain for the benefit of the Committee the views of medical men on the subject he said that to the best of his belief they all differed. It was only a small proportion—less than 5 per cent.—of doctors who used certificates of their own.

By Dr. Cameron: As the law now stood a medical practitioner must judge for himself as to the necessary amount of attendance entitling him to grant a certificate. He was not prepared to give an opinion as to the desirability of stating on the certificate the character of the medical attendance. He would do what he could to procure an analysis as to the age in the cases of uncertified death.

Dr Cameron informed the Committee that he had received from the medical officer of health of Glasgow statistics showing that the percentage of uncertified deaths in that city amongst illegitimate children was enormously greater than that amongst legitimate children.

Sir Brydges Henniker said he would endeavour to get information on this point and if he succeeded he would present it to the Committee. He did not doubt that the passing of the Friendly Societies Act had had something to do with the reduction in the number of uncertified deaths. It made the securing of the certificates a matter of importance, for the money could not be obtained without the production of a certificate.

MR. CHARLES R. BARNES, Registrar of Kensington Town, was next examined. He gave evidence as to his methods of procedure and his experience of Kensington in the matter of uncertified deaths. He expressed the opinion that the certificates of medical men were no longer used to obtain money from friendly societies. Indeed, the societies would not receive such certificates. In answer to a question by Sir Thomas Lea he said that the popular idea was that burial could only take place after the certificate had been obtained. Such was not the law, although he confessed he did his best to encourage the popular idea. In answer to Dr. Farquharson he explained that he had about twenty cases of uncertified deaths in the course of each year, and in the case of two-thirds of these there were coroners' inquests.

The Committee then adjourned.

The Committee met again on Tuesday, under the presidency of Sir Walter Foster.

Dr. JOHN FREDERICK JOSEPH SYKES, medical officer of health for St. Pancras, examined by the chairman, said he had written books on public health and published papers on death certification. He considered the registration of deaths to be valuable as a protection of life, as an aid to justice and as a means of compiling vital statistics of great public value. The present system was, in the first place, defective, because it afforded practically no control over burial. He was struck with this some years ago when he was supervising, under the Secretary of State, the removal of 3000 or 4000 bodies from St. James's Churchyard in St Pancras for the extension of the London and North-Western Railway. At that time he made inquiry into the manner in which burials took place in St. Pancras. He found that the by-laws of the Local Government Board, and, in fact, nearly all the regulations, were questions rather of sanitary than of official control, for the purpose of preventing crime or irregular burial. What particularly attracted his attention at that time was the charge of Mr. Justice Stephen at Cardiff in the case of Pryce. The gist of the charge was that practically anyone could be buried anywhere and at any time and nobody prohibited if a misdemeanour or a nuisance was not committed. It seemed to him that before any good could be done in the matter of death certification

there should be some check with regard to burial. The 17th Section of the Births and Deaths Registration Act made it compulsory, no doubt, that the person performing any funeral or religious service should have a certificate and provided for the imposition of a penalty. But, on the other hand, the 11th Section of the Burial Laws Amendment Act relieved the person burying from giving notice and threw the onus upon the relatives or friends of the deceased. It was true that these relatives or friends were liable to a penalty. As to burials in private grounds the law did not affect them except so far as the certificate was concerned. People were not allowed to bury without a certificate or giving notice to the registrar within seven days. He presumed that if no funeral or religious service was performed it would not be necessary to give notice. The state of the law was the same in regard to cremation, although in places where cremation took place there were special regulations prepared at the instance of the authorities there. In the case of stillborn children the common thing was for the undertaker to place them in a coffin along with an adult. Undertakers frequently had several bodies on the premises waiting an opportunity for disposal. He did not think that there was any inquiry as to whether the child was actually stillborn. He considered that this looseness of regulation was a principal cause of crime. He himself had never been troubled much in St. Pancras with regard to stillborn children. Even in the case of certified deaths he considered the present system defective as regarded verification of the fact of death and identification of the deceased. Certificates were too easily obtained from the staffs of hospitals. One or two cases occurred to him in which assistant physicians had given certificates although they had not seen the patient within ten days of death. His experience impressed him with the facility offered by the present system to unprincipled persons. There was the possibility of considerable fraud being perpetrated without much chance of detection. In his opinion it was eminently unsatisfactory to have any deaths uncertified. Every death should be referred to medical opinion. He did not consider the coroner to be a proper person to certify the cause of death at all. The cause of death should be stated upon medical evidence and accepted by the coroner. What he suggested was that a medical examiner should be appointed in each district; that uncertified deaths should be referred to him, and that he should be associated with the coroner in some way to assist the latter in ascertaining the cause of death. However estimable the coroner's office might be, he was incapable of carrying on any duties that required a great amount of discrimination. His suggestion would apply also to those cases where the burial took place on the certificate of the registrar alone. What he wanted was scientific evidence as to the cause of every death. Under the present system the burial certificate might be used more than once. When the person registering the death gave information to the registrar, the latter handed him a certificate for burial and he never knew how it was used or where it was used. He would have it that the authority at the burying-ground should transmit to the registrar the certificate upon which the interment was made, so that every certificate issued from the office might be returned and entered again when the burial had taken place. In the classification of the causes of death there were defects. The words "primary" and "secondary" cause in the certificate were more misleading than useful. They were interpreted by some as meaning the primary cause chronologically and by others as the primary cause physically. He thought the words should be omitted altogether and that the certificate should contain some statement as to the duration of the illness. Another source of confusion was the nomenclature of the cause. Terms were used loosely. He would like to see some sort of standard nomenclature. In his opinion the certificates of unqualified medical men should not be accepted by registrars. As to the form of the certificate issued by the Registrar-General he would suggest that detailed instructions should be given as to the terms not to be used. He did not think these would be too much to put on the certificate and he was confident that medical men would read them.

By Sir Stafford Northcote: In his opinion the certificate of the coroner should be a judicial and not a medical certificate. He should prefer to see the statement of the medical man standing by itself to an intimation from the coroner as to the effect of it. He would grant no medical certificate of death unless the body had been seen by a medical man and properly identified.

By Dr. Cameron: There was no statutory obligation upon registrars to supply statistical information to medical officers of health. He knew of no law to prevent interment in a vault in private property. One drawback of giving the medical certificate to the relatives and friends of the deceased was that the medical man had to consult their feelings. This frequently led to wrong classification. Cases of death from alcohol and syphilis were rarely stated in their naked truth. He would like to see the certificate going straight to the registrar, instead of passing through the hands of the friends and relatives

By Mr. Brookfield: The introduction of cremation made the state of the law still more unsatisfactory. He admitted that to a certain extent the laxity which now prevailed was the fault of medical men.

Dr. DANFORD THOMAS, coroner for Central London, was the next witness examined. He expressed the opinion that the form of certificate sent out by the Registration Office, which was intended only for the use of the registrar and not for relatives and friends of the deceased, should be of a kind somewhat similar to the vaccination paper. It should be a double sheet with a halfpenny stamp affixed and the registered medical practitioner should post it to the registrar and not send it to the friends at all. If this certificate were made compulsory he thought that medical men would be more careful than at present in filling in the particulars and that the result would be a very useful document from a State point of view. Perhaps a small fee might be paid the medical men by the State or the local authority. If it were the case that a fee of half-a-crown would cost between £60,000 and £70,000 annually, then he would put aside the question of fee. In his opinion no doctor should give a certificate unless he had seen the dead body. He had had doctors offering certificates in cases where they had not seen the patients within six months of the time of death. He could cite a case where a doctor was prepared to give a certificate of heart disease in such circumstances. Everything pointed to death from heart disease. The doctor had for some time been expecting such a death. The brother of the deceased was extremely anxious that there should be no inquest. Witness, however, decided to hold one and to have a post-mortem examination. What was the result? A pistol shot was found. The man had shot himself during the night. In the end the brother was extremely thankful that an inquest had been held. The practice of unqualified men giving certificates was more common in the East-end of London amongst the poorer classes than in his district and he thought it was becoming less common everywhere because of the efforts and the action taken by the General Medical Council. He thought it a very desirable thing to have a medical man to supervise certificates and verify the cause of death in certain cases and to assist the coroner in his work. He found that there was a method of burial without registration at all. A gentleman died in London. The undertaker told the executors to leave everything in his hands and he would see the whole matter carried through. He arranged the funeral, went to the cemetery and the body was interred. Ten days afterwards it was found that the death had not been registered at all. The burial took place in one of the cemeteries in London. The chaplain explained in a letter that when he asked for the certificate he was told that it would be sent to him. Not only was this death not registered, but no certificate had been given by a medical man. As a matter of fact, no medical man had been asked for one. The matter was left to the undertaker, who forgot all about it. This case showed the possibility of a funeral service and an interment without a certificate. He frequently came across cases where children born alive were returned as stillborn. At present there was no registration of stillborn children. What he would suggest was that in every case they should have the certificate of a registered medical practitioner who had actually seen the body.

By Dr. Cameron: Under the present system coroners received information from all sorts of people. In his opinion the responsibility of notifying cases for inquest should be placed upon some one.

Sir SPENCER WELLS, examined by the chairman, expressed the confident belief that a great deal of the improvement in our national health was due to the initiation of a system of registration of deaths. It had led to a better knowledge of the causes of death and through that to certain preventable diseases being more generally prevented. He could cite the case of typhoid fever and that too of cholera. In his opinion the present certificates were insufficient. The registered cause of death was not sufficiently precise. One could not learn from it the actual cause. Fuller and more detailed information would, in his opinion, add greatly to the value of the statistics of the Registrar-General and lead to an improvement in the public health. He would like to see a closer inquiry into the causes of death and greater care taken in identifying the body. In every case there should, in the first instance, be a certificate by a qualified medical man. That certificate should be paid for by the State or some local authority. It was required by the nation and the nation should pay for it. If he were told that it would cost about £60,000 per annum to give 2s. 6d. for each certificate, then he would say that was a trifle compared with the waste of money going on elsewhere.

The Chairman: Such as what?

Sir Spencer Wells: The army and navy, for instance.

The Chairman: You think the supreme duty of the State is to protect the lives of the citizens and that anything that would lead to that would be cheap at the price?

Sir Spencer Wells: Yes, certainly. In further examination witness said that medical men looked upon themselves as unfairly treated by the Registration Department. They felt that a heavy burden was placed upon them, for they got nothing in return. Medical men would certainly like to see one of their profession at the head of the Department. He agreed with the deputation which recently waited upon the Home Secretary as to the desirability of the administration of the Public Health Acts, the Burials Acts, the Registration Acts, and all such matters being placed under the control of a central department, with a responsible Minister in the House of Commons. As to cremation they required a much stricter investigation as to the cause of death when a body was cremated than in a case of burial in a churchyard or cemetery. They insisted on two certificates by medical men. In certain cases they even required a post-mortem examination, and in others they retained portions of the liver or the spleen.

By Dr. Cameron: The only thing was that they could not exhume a body. The number of exhumations was, however, very small. He could cite a case where it was only the special inquiry prior to cremation which led to the discovery that a child had been poisoned by sweetmeats. If the child had been buried in the ordinary way the discovery would not have been made. In the present state of the law there was nothing to prevent a man being buried in his own back garden.

By Mr. Brookfield: He did not regard this as a desirable state of things.

The Committee then adjourned.

BOOKS ETC. RECEIVED.

ABEL, AMBR. (Arthur Meiner), Leipzig.

Pierson-Soerling, Lehrbuch der Elektrotherapie. Sechste Auflage, bearbeitet von Dr. A. Sperling (Berlin). 1893. pp. 420.

ALCAN, FELIX, Paris.

Petit Manuel d'Antisepsie et d'Asepsie Chirurgicales. Par F. Terrier et M. Péraire. 1893. pp. 186.

BAILLIÈRE, TINDALL & COX, King William-street, Strand, London.

Aids to Biology. By J. W. Williams. pp. 142. Price 2s. 6d.

Horses: Sound and Unsound, with the Law relating to Sales and Warranty. By J. Irvine Lupton, F.R.C.V.S. 1893. pp. 211. Price 5s.

BAILLIÈRE, J. B., ET FILS, Paris.

Formulaire des Médicaments Nouveaux et des Médications Nouvelles. Par H. Bacquillon-Limousin. Avec une Introduction par Henri Huchard. Fourth Edition. 1893. pp. 314.

CHURCHILL, J. & A., New Burlington-street, London.
Diseases and Injuries of the Ear. By Sir Wm. B. Dalby, F.R.C.S., M.B. Cantab. Fourth Edition. 1893. pp. 279.

CONSTABLE, T. & A., Edinburgh.
Atlas of Clinical Medicine. By Byrom Bramwell, M.D. Vol. II., Part II. 1893.

DIGBY, LONG & Co., Bouverie-street, Fleet-street, London.
Dr. Janet of Harley-street. By Arabella Kenealy. pp. 340. Price 6s.

KIMPTON, HENRY, High Holborn, London, W.C.
Diseases of the Urinary Apparatus: Phlegmasic Affections. By J. W. S. Gouley, M.D. pp. 342.

LAURIE, THOS., Paternoster-row, London.
Arcachon; its Advantages as a Health Resort. By the Rev. S. Radcliff. Second Edition. With Medical Appendix by Dr. Festal. 1893.

LEWIS, H. K., Gower-street, London.
From Hospital Ward to Consulting room. With Notes by the way. A Medical Autobiography. By a Graduate of the London University. 1893. pp. 58. Price 3s. 6d.
Public Health Laboratory Work. By H. R. Kenwood, M.B., D.P.H., F.C.S., and R. Boyce, M.B. Illustrated. 1893. pp. 491. Price 10s. 6d.

LONGMANS, GREEN & Co., London.
A Dictionary of Applied Chemistry. By T. E. Thorpe, B.Sc. (Vict.), Ph.D., D.Sc. (Dubl.), F.R.S. Assisted by eminent Contributors. In Three Volumes. Vol. III.: O—Z. 1893. pp. 1058. Price 63s.

PUTNAM'S, G. P., SONS, London and New York.
Carlsbad; a Medico-Practical Guide. By E. Kleen, M.D., Ph.D. 1893. pp. 101. Price 3s.

SAMPSON LOW, MARSTON & Co., London.
An Illustrated Encyclopædic Medical Dictionary. By Frank P. Foster, M.D., and others. Illustrated. Vol. III. Fas—Min.

SMITH, ELDER & Co., Waterloo-place, London.
Dictionary of National Biography. Edited by Sidney Lee. Vol. XXXIV. Llwyd—Maccartney. 1893. pp. 450.
A Handbook of Ophthalmic Science and Practice. By H. E. Juler, F.R.C.S. Illustrated. Second Edition. 1893. pp. 549.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.
Formulaire Pratique pour les Maladies de la Bouche et des Dents. Par G. Viau. 1893. pp. 374.

SWAN SONNENSCHEIN & Co., Paternoster-square, London.
Drunkenness. By Geo. R. Wilson, M.B., C.M. 1893. pp. 161.

THE ENGINEERING RECORD, New York.
Ventilation and Heating. By J. S. Billings, A.M., M.D. 1893. pp. 500.

THE NEW SYDENHAM SOCIETY, London.
A Treatise on Gynæcology, Clinical and Operative. By S. Pozzi, M.D. Vol. II. 1893. pp. 412.

WILLIAMS & NORGATE, Henrietta-street, Covent-garden, London.
Bericht über die Gynäkologischen Operationen des Jahrgangs 1891-92. Von H. Fritsch. 1893. pp. 287.

How Can These Things Be? an Inquiry into a Social Question; by A Physician (Francis H. Spencer, M.D.); reprint.—The Dental Profession; by Henry Sewill (Baillière, Tindall & Cox, London, 1893); price 1s.—Willing's British and Irish Press Guide, 1893 (J. Willing, Piccadilly and Strand, London); price 1s.—Scab Healing and its Application in General Surgery; by J. D. Harris, M.R.C.S. (H. K. Lewis, London, 1893); price 1s.—De la Cystocèle Inguinale rencontrée au cours de la Kélotomie; par le Dr. H. Bourbon (G. Steinheil, Paris, 1892).—Recreation; by Wm. Odell, F.R.C.S. (A. Iredale, Torquay, 1893); price 1s.—Notes on the New and Recent Remedies and Pharmaceutical Products &c., 1893 (Allen & Hanburys, Lombard-street, London).—L'Inoculation Préventive contre le Choléra Morbus Asiatique; par J. Ferran, avec la Collaboration des Drs. A. Gimeno et J. Pauli; traduit par le Dr. E. Duhourcau (de Cauterets) (Société d'Éditions Scientifiques, Paris, 1893).—Sulla Origine dei Corpuscoli del Sangue; Ricerche del Dott. Vincenzo Allara (Presso la Libreria Editrice Galli, Milano, 1893).—The Journal of Anatomy and Physiology, Vol. XXVII., Part III., Vol. VII. (C. Griffin & Co., London), price 6s.—The Medico-Legal Journal, December, 1892 (C. Bell, Broadway, New York).—Sechster Gesammtbericht über das Sanitäts- und Medicinalwesen in der Stadt Berlin während der Jahre 1889, 1890 und 1891, mit einem Anhang betreffend die Stadt Charlottenburg; erstattet von Dr. A. Wernich und Dr. R. Wehmer (Richard Schoetz, Berlin, 1893).—International Congress of Experimental Psychology, Second Session, London, 1892 (Williams & Norgate, London).—Archiv für Experimentelle Pathologie und Pharmakologie; von Dr. B. Naunyn und Dr. O. Schmiedeberg; 31. Band, 2. u. 3. Heft (F. C. W. Vogel, Leipzig, 1893).—Revue des Sciences Médicales en France et à l'Etranger, No. 82, Avril, 1893 (G. Masson, Paris.)—On the Effects of Urban Fog upon Cultivated Plants; by Professor F. W. Oliver, M.A., D.Sc.; reprint (Spottiswoode & Co., London, 1893).—Des Perforations de la Membrane de Sharpnell: Étude Anatomique et Clinique; par le Dr. A. Raoult (Société d'Éditions Scientifiques, Paris, 1893).—Étude Anatomo-Pathologique et Expérimentale des Artérites secondaires aux Maladies Infectieuses; par le Dr. L. Thérèse (Société d'Éditions Scientifiques, Paris, 1893).—Magazines for April: Sunday at Home, Leisure Hour, Boy's Own Paper, Boy's Out-door Games and Recreations, Girl's Own Paper, Girl's Own Out-door Book (Religious Tract Society).

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BOND, C. HUBERT, M.B., Ch.M. Edin., has been appointed Fourth Assistant Medical Officer and Pathologist to the London County Asylum at Banstead.

BRADFORD, J. R., M.D., M.R.C.P. Lond., has been appointed Assistant Physician to the National Hospital for the Paralysed and Epileptic, Bloomsbury, vice Dr. Tooth.

BROMLEY, F., M.R.C.S., has been appointed Medical Officer for the Prestcign Sanitary District of the Knighton Union, vice Balfour, resigned.

CLARKE, E. W., M.D., C.M. Edin., M.R.C.S., has been appointed Medical Officer to the Chesterfield Hearts of Oak Medical and Electoral Association.

CLOWES, NORTON B., M.R.C.S., L.R.C.P., has been appointed Medical Officer to the Reading Dispensary.

COLMAN, W. S., M.D., M.R.C.P. Lond., has been appointed Registrar and Pathologist to the National Hospital for the Paralysed and Epileptic, Bloomsbury, vice Dr. J. Taylor, appointed an Assistant Physician.

CURRIE, JOHN, M.B., C.M. Glasg., has been appointed Acting Medical Officer to the Madras Railway Company, Madras.

FAUSSET, J. D., M.D., L.Ch. Dub., has been reappointed Medical Officer of Health for the Fleetwood Port and Urban Sanitary Districts.

FLETCHER, W. J. H., L.R.C.P., L.M., L.R.C.S. Edin., has been appointed Medical Officer to the Loyal Cavendish Lodge, Doveridge.

FREEMAN, J., L.R.C.P. Lond., M.R.C.S., has been appointed Anæsthetist to the Bristol General Hospital.

GÜNTHER, T., M.D. Tübingen, L.R.C.P. Lond., has been reappointed Medical Officer of Health for the Hampton Wick Sanitary District.

HECTOR, EDWARD B., M.B., C.M. Edin., has been appointed Visiting Physician to the Leeds House of Recovery and Convalescent Home at Gildersome, near Leeds.

HOLMES, J., M.D., M.R.C.S., L.S.A., has been appointed Medical Officer for the Penkridge District of the Cannock Union, vice Wilkinson, resigned.

HOUGHTON, MURTAUGH J., M.R.C.S., L.R.C.P., L.S.A., has been appointed Clinical Assistant to the Ear and Throat Hospital, Birmingham.

JACKSON, J. C., L.R.C.P. Lond., M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health for Fulham, vice Cooney, resigned.

JAMIE, R. W., M.B., C.M. Edin., D.P.H. Camb., has been reappointed Medical Officer of Health to the Coalville Local Board.

LLOYD, RICKARD W., M.R.C.S., has been appointed Anæsthetist to St. Mark's Hospital, London, vice Mills, resigned.

LUCAS, ALBERT, F.R.C.S. Eng., has been appointed Assistant Surgeon to the General Hospital, Birmingham, vice J. Furneaux Jordan, F.R.C.S. Eng., resigned.

MOORHEAD, G. H., L.R.C.P. L.M., L.R.C.S. Irel., has been appointed Medical Officer of Health for the Tong Urban Sanitary District of the North Bierley Union.

MUNRO, J. D. R., M.B., C.M. Edin., has been appointed Senior House Surgeon to the Royal Albert Edward Infirmary and Dispensary, Wigan, vice Carter, resigned.

PRESTON, J. R., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the Children's Hospital, East-end Branch, Sheffield.

RENDLE, C. E. RUSSEL, B.A. Oxon., M.R.C.S., L.R.C.P., has been appointed Honorary Surgeon to the Plymouth Royal Eye Infirmary, vice E. M. Russel Rendle, resigned.

ROBERTSON, W. F., M.B., C.M. Edin., has been appointed Pathologist to the Royal Asylum, Morningside, Edinburgh.

SINCLAIR, G. T., M.B., C.M. Edin., has been appointed Medical Inspector of Ships, for Kincardine.

STANFORD, W. BEDELL, M.R.C.S., L.R.C.P. Lond., has been appointed Second Assistant Medical Officer to the Shoreditch Infirmary.

TOOTH, HOWARD H., M.D., F.R.C.P. Lond., has been appointed Physician for Out-patients to the National Hospital for the Paralysed and Epileptic, Bloomsbury, vice Dr. Anderson, deceased.

UPPLEBY, J. G., L.R.C.P., L.R.C.S. Edin., has been appointed Visiting Surgeon to the Provincial Hospital, Port Elizabeth, South Africa.

VISE, CHRISTOPHER, M.D., has been appointed Honorary Physician to the General Hospital at Tunbridge Wells, vice Dr. Johnson, resigned.

WEBSTER, PERCY L., L.R.C.P., M.R.C.S., L.S.D., has been appointed Dental Surgeon to the Metropolitan Hospital.

WOOD, W. D., L.R.C.P., L.R.C.S. Edin., has been reappointed Medical Officer of Health for the Caversham Urban Sanitary District of the Henley Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon for the Highgate Branch. Salary £150 per annum, with an allowance for cab hire, and furnished rooms, fire, lights and attendance.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, London, S.W.—Physician.

DERBY COUNTY ASYLUM, Mickleover, Derby. — Resident Clinical Assistant, for six months. Board, attendance &c. provided.

GENERAL HOSPITAL, Birmingham.—Resident Surgical Officer, for one year. Salary £130 per annum, with residence, board and washing.

GENERAL HOSPITAL, Birmingham.—Assistant Obstetric Officer, for three years. Honorarium £100 per annum.
GENERAL INFIRMARY, Leeds.—Two House Surgeons, for twelve months. Board, lodging and washing provided.
GENERAL HOSPITAL, Nottingham.—Assistant House Physician for six months. Board, lodging and washing provided in the hospital.
GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—House Physician. Salary £60 per annum, with board and lodging in the hospital.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Surgical Registrar and Anæsthetist, for one year. Honorarium of £40 at the expiration of that term.
HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.—Resident House Surgeon, for six months. Salary £25, board and residence in the hospital.
HOSPITAL FOR WOMEN (THE LONDON SCHOOL OF GYNÆCOLOGY), Soho-square, W.—Clinical Assistants.
INVERNESS DISTRICT ASYLUM, Inverness.—Assistant Medical Officer. Salary to commence at £100 per annum, with board, apartments and washing.
LONDON HOSPITAL, Whitechapel-road, E.—Medical Registrarship. Salary £100 per annum.
NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, 32, Soho-square, W.—Two Clinical Assistants, for three months.
ROYAL BERKS HOSPITAL, Reading.—House Surgeon. Salary £80 per annum, with board and lodging.
ROYAL HOSPITAL FOR CHILDREN AND WOMEN, Waterloo-bridge-road, S.E.—Anæsthetist and Registrar. Honorarium 20 guineas per annum.
ROYAL SURREY COUNTY HOSPITAL, Guildford.—Assistant House Surgeon for six months. Board, lodging and washing provided in the institution.
SMEDLEY'S HYDROPATHIC ESTABLISHMENT, Matlock.—Assistant House Physician, for six months. Honorarium of £20. Board, lodging &c. provided.
THE COPPICE, Nottingham.—Assistant Medical Officer (unmarried). Salary £120 per annum, with furnished apartments, board, washing and attendance.

Births, Marriages and Deaths.

BIRTHS.

ALEXANDER.—On April 17th, at Portland-place, W., the wife of Adolphus B. Alexander, L.D.S. Eng., of a daughter.
CRAIG.—On April 15th, at the Royal Marine Barracks, Plymouth, the wife of William Maxwell Craig, Surgeon, Royal Navy, of a daughter.
GLYNN.—On April 9th, at Rodney-street, Liverpool, the wife of T. E. Glynn, M.D., of a son.
HART.—On April 14th, at Kirkdale, Sydenham, S.E., the wife of F. J. Lorimer Hart, M.B., C.M. Edin., of a son.
MASON.—On April 14th, at Osnaburgh-terrace, Regent's-park, N.W., the wife of J. Wallis B. Mason, M.D., of a son.
PASTEUR.—On April 16th, at 4, Chandos-street, Cavendish-square, W., the wife of W. Pasteur, M.D., of a daughter.
SCOUGAL.—On April 12th, at 1, Marsh-wood-road, Huddersfield, the wife of E. F. Scougal, M.A., M.D., of a daughter.

MARRIAGES.

COLLIE—ASHLEY.—On April 12th, at St. Simon's Church, West Kensington-park, by the Rev. Robert Handcock, John William Collie, M.B. and C.M., to Agnes Blanche, sixth daughter of the late William Henry Ashley, M.D., F.R.C.S., and granddaughter of the late Admiral Thomas Gill of Bath.
HARFORD-BATTERSBY—CLAPTON.—On April 12th, at St. Michael and All Angels, Harlesden, Willesden, Charles Forbes Harford-Battersby, M.A. and M.D. Cantab., youngest son of the late Canon Harford-Battersby of Keswick, to Adeline, elder daughter of Mr. William Clapton, F.R.C.S., of Harlesden, N.W.
HEARNDEN—BARNETT.—At St. Nicholas's, Sutton, Surrey, William Frank, M.R.C.S., eldest son of William Alexander Hearnden, M.D., to Louisa C. M. Barnett, daughter of John Reeve Barnett.
MATHIAS—SWAIN.—On April 11th, at St. James-the-Less, Plymouth, Surgeon-Captain H. Brodrick Mathias, second son of George Mathias, of Tenby, Pembrokeshire, to Margaret Mary, only daughter of Paul Swain, F.R.C.S., The Crescent, Plymouth.
MILLHOUSE—LATHBURY.—On April 18th, at the Church of St. Nicholas, Chiswick, by the Rev. L. W. T. Dale, M.A., George Millhouse, M.R.C.S. Eng., of Kirkstall, Leeds, to Elizabeth (Bessie) Baylis, daughter of the late Robert Lathbury of Park House, Chiswick.
REMFRY—ABBOTT.—On April 12th, at Christ Church, Lancaster-gate, W., Leonard Remfry, M.A., M.D. Cantab., of 60, Great Cumberland-place, W., to Beatrice Ida, daughter of Mr. John Abbott of Braemar House, Lancaster-gate, W.

DEATHS.

BAKER.—On April 17th, at Harewood-square, J. Penning Baker, M.R.C.S., aged 56.
BUCHANAN.—On April 14th, at Sowerby, Thirsk, Hugh Dryden Buchanan, M.B., C.M., in his 30th year.
CROSS.—On March 27th, at Madeira, Robert Cross, M.D., of Berkeley-square, London, aged 84.
TODD.—On April 16th, at Pepys-road, Hatcham, George Michael Todd, M.D., late of the Old Kent-road, in his 86th year.
WELHAM.—On April 16th, at Walton-on-Naze, Robert Welham, Surgeon, aged 77.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages and Deaths.

Medical Diary for the ensuing Week.

Monday, April 24.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays, at the same hour.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; and on Tuesday, Wednesday, Friday, and Saturday at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.; Tuesday, 2.30 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2.30 P.M.; Friday, 2 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M.; and each day at the same hour.
CHELSEA HOSPITAL FOR WOMEN.—Operations, 2 P.M.; Thursday, 2 P.M.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M.; and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M. Eye Department, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8.30 P.M. Clinical Cases:—Mr. Spencer Watson: Nasal Polypus.—Mr. Percy Symonds: Case after Amputation of the Hip-joint.—Mr. Stonham: Arterial Venous Aneurysm.—Mr. Jonathan Hutchinson, jun.: (1) Chancre of the Cheek, Infection through a Bite; (2) Plastic Operation for Rodent Ulcer.—Dr. Eddowes: An Uncommon Form of Ulceration of both Legs in a Young Girl. Paper:—Dr. Gilbart Smith: The Diagnostic Significance of Hæmoptysis in Aortic Aneurysm.

Tuesday, April 25.

GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Skin Department, 1.45; Saturday, 9.15.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same day, 2 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—Mr. Henry T. Butlin: On the Removal of a Pressure Pouch of the Œsophagus.—Dr. W. Hale White: On the Influence of Various Diets upon the Composition of the Urine and the General Condition of Patients suffering from Chronic Bright's Disease.

Wednesday, April 26.

NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 10 A.M.
MIDDLESEX HOSPITAL.—Operations, 1.30 P.M.; Saturdays, 2 P.M. Obstetrical Operations, Thursdays, 2 P.M.
CHARING-CROSS HOSPITAL.—Operations, 3 P.M., and on Thursday and Friday at the same hour.
ST. THOMAS'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M.; Thursday and Saturday, same hour.
ST. PETER'S HOSPITAL, COVENT-GARDEN.—Operations, 2 P.M.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 1.30 P.M. Dental Department, 9.30 A.M. Eye Department, 2 P.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M. Surgical Visits on Wednesday and Saturday at 9.15 A.M.
HUNTERIAN SOCIETY.—8.30 P.M. Dr. J. H. Stowers: Microscopic Section and Drawing of a case of Rare Malignant Disease of the Ear.—Dr. Arnold Chaplin: The Consequences of the Belief that Tuberculosis is Caused by a Specific Micro-organism known as the Bacillus Tuberculosis.

Thursday, April 27.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M. Ear and Throat Department, 9 A.M. Eye Department, 2 P.M.

Friday, April 28.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Eye Department, 2 P.M.
CLINICAL SOCIETY OF LONDON.—Living Specimens at 8 P.M.: Dr. A. H. Clemow: A case of Skin Disease for Diagnosis.—Dr. Evan C. Stabb: A case of Syphilitic Stenosis of the Larynx treated by Excision of one Vocal Cord.—Dr. Walter Carr: A Doubtful Case of Early Pseudo-hypertrophic Paralysis in a Girl.—Dr. J. W. Bond: A Patient wearing an Artificial Larynx after Partial Extirpation for Myxo-chondroma. Papers at 9 P.M.:—Dr. Broadbent will present the Report of the Committee on the Periods of Incubation and Contagiousness of certain Infectious Diseases.—Dr. Lucas Benham: A case of Psoas Abscesses fatal through Renal Complications.—Mr. Christopher Heath: On a Bloodless Method of Removing the Tongue.—Dr. Lee Dickinson and Mr. W. Hayward: A case of Perforating Gastric Ulcer treated by Abdominal Section.

Saturday, April 29.

UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, April 20th, 1893.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 a.m.
Apr. 14	30·39	S.W.	40	39	80	57	30	...	Overcast
,, 15	30·24	S.W.	45	42	103	65	38	..	Bright
,, 16	30·20	S.W.	49	45	93	62	41	..	Cloudy
,, 17	30·26	E.	47	46	72	51	44	02	Raining
,, 18	30·14	S.E.	51	48	103	71	45	...	Hazy
,, 19	29·94	S.E.	58	52	108	74	50	..	Hazy
,, 20	29·98	N.E	56	52	112	77	51	·02	Overcast

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged in the future to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together.

We have had a large number of duplicate copies of the Index to the last half-yearly volume printed, and those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

A GERMAN TRIBUTE TO SIMPSON.

DR. HEYSE, in No. 14 of the *Deutsche Medicinische Wochenschrift*, pays a well-merited compliment to the great Edinburgh obstetrician, Simpson. He says: "Simpson (*Edinburgh Journal of Medicine*, 1854) was the first to describe tetanus as a special complication of the puerperal condition, to be reckoned amongst the infectious diseases; a poison was formed in the uterus which gained access to the blood through the wounded surface of the internal wall, and then, like strychnine and brucia, affected the central nervous system." Heyse adds: "The latest researches on puerperal tetanus have shown the correctness of these views of the celebrated observer, who, with no knowledge of bacteria or toxine, came to a true theory of this disease."

INFIRMARY WARD WALLS.

To the Editors of THE LANCET.

SIRS,—Will someone inform me whether there is any special paint for this purpose? I have long been a member of our infirmary committee, and great pains are taken to keep the wards nice and fresh-looking, but this is only done at great cost in repeated painting (almost yearly). The blackening in the corners appears very quickly and the painters are always unable to remove this by washing. I presume a chemical combination has set in between the lead in the paint and the sulphurous acid from the gasburners. If this is so, would a zinc-made paint obviate the difficulty, or should varnish be used? Information would be greatly valued by,

Yours obediently,

April 19th, 1893. A CONSTANT READER.

SOUTH AUSTRALIA AND ITS MINERAL SPRINGS.

ONE of the great problems at present agitating the minds of the colonists of Australia is how to secure a sufficient and constant supply of water both for personal and pastoral use. If, says a South Australian contemporary, the copious streams which flow a few hundred feet underground were only tapped by lines of artesian wells and the water thus obtained distributed on the surface of the parched ground, much more benefit would result to the denizens of these colonies than from half-a-dozen ordinary sessions of Parliament. Meanwhile, much greater use might be made of the mineral springs existing, say, between the Macdonnell Ranges and Port Augusta, which afford an abundant supply of water of a kind calculated, in many instances, to assist in removing disease and in imparting health and vigour to enfeebled frames. Indeed, according to the testimony of competent authorities, these thermal waters are probably as potent for good as many of the European waters having a high reputation for their medicinal virtues. There is need for a little more light to be thrown on the resources of our colonies in regard to natural therapeutics.

Cantab.—B. clearly should pay on the value of the practice in its present form, allowance being made for the alteration in value caused by the retirement of the assistant &c.

RESPONSIBILITY FOR THE ADOPTION OF MEASURES OF DISINFECTION.

To the Editors of THE LANCET.

SIRS,—I shall feel much obliged for information on the following point: A case of scarlet fever occurs, in private practice, in a district where the Notification Act is not in force. The patient's family are not in very prosperous circumstances and find it sufficiently difficult to pay a doctor's ordinary fees. Now I should like to know whether, in such a case, the medical officer of health should be requested to see to the carrying out of the necessary process of general disinfection (i.e., of clothes, bedding, apartment &c.) at the expense of the parish; and, if so, whether the family have power to *claim* such services from the medical officer of health, or whether the physician has to see to it (supply disinfectants &c.) at the expense of the family.

I am, Sirs, yours truly,

April, 1893. PHYSICIAN.

*** It is not easy to answer our correspondent's question with legal precision, as the requirements of the law in regard to the points which he raises are not clearly laid down either by statute or by instructions of the Local Government Board; but we think it may be assumed that where a medical practitioner is called in to attend a case of infectious disease he would be expected to give such instructions as he might think proper for the treatment of the case *throughout*, including such action as might be desirable and practicable for preventing the spread of infection. To do otherwise might lead to reflection upon his competency and to the interference of the sanitary authority with duties which properly devolve upon him as the responsible adviser of the patient. If any special appliances for disinfection exist in the district the officers of the sanitary authority should be applied to for assistance in employing them, as also for instruction and assistance, if required, in the ordinary process of fumigation of rooms &c. As to the supply of disinfectants, we apprehend that, strictly speaking, no person has a *claim* for their *gratuitous* supply, except as a pauper and through an order from a relieving officer; but the general practice, we believe, is for sanitary officials, when applied to for assistance in this respect, to supply the ordinary forms of disinfectant, such as crude carbolic acid &c., gratuitously; and we think it may also be assumed that where the medical attendant indicates in a courteous manner to these officials that their services are desirable in promoting the observance of proper precautions in a case of infectious disease they would readily give them. Of course, where there is reason to believe that effective measures of cleansing and disinfecting, which primarily devolve upon the occupier or owner of infected premises, are not likely to be carried out as they should be, the sanitary authority can carry out such work itself and recover the cost summarily from the person responsible for doing it.—ED. L.

A QUESTION OF HOSPITAL ETHICS.

To the Editors of THE LANCET.

SIRS,—I wish to ask your opinion in the following case: A house surgeon receives a person suffering from compound fracture of the tibia with the bone protruding through the skin. The patient is over sixty years of age. Is a house surgeon justified in treating such a case on his own responsibility, or should he summon the staff surgeon for his opinion as soon as possible? Apologising for troubling you,

I am, Sirs, yours truly,

April 14th, 1893. CANTAB.

*** As a rule the surgeon should be sent for in such a case. Where the house surgeon is a man of considerable experience, or the surgeon has expressly sanctioned it, the house surgeon might treat such case without calling in the surgeon.—ED. L.

MEDICAL PRACTICE AS A BUSINESS PUSHED BY A COMMERCIAL COMPANY.

A CORRESPONDENT sends us a letter received by him from a certain Society inviting him to sign a form of agreement accepting an appointment as the representative of the Society, in which capacity he would have, amongst other things, to attend children under fourteen years of age for 1s. 10d. a year and all persons above that age for 3s. a year. We entirely approve the "distinct refusal" of our correspondent to accept such an appointment. It is a new departure for medical men to accept appointments under a commercial company which throws in medical attendance as a sop to attract other business and which places the medical man in an undignified position. It is better to be a little slower in obtaining practice than to get a "start" in such a way. Those who accept such positions will not derive the satisfaction experienced by those who decline them.

"MEDICAL OFFICERS OF HEALTH AS DIAGNOSTICIANS."

To the Editors of THE LANCET.

SIRS,—I have perused your editorial comments under the above heading in THE LANCET of April 15th with much interest; but, whilst accepting generally the position which you have taken up, I feel that there are circumstances that would suggest other considerations. May I venture to ask what course you think should be followed by a medical officer of health who is confronted by a case such as the following: I received notification of a case of enteric fever from a neighbouring practitioner by the morning post and within four hours I personally visited the patient. I found him out of bed, apparently well, and both he and his friends surprised at the cause of my appearance. The condition of the patient afforded no indication of so grave a disease, a clean tongue, moist and cool skin and absence of fever alike negativing it. This is a sample of the difficulties medical officers of health have to contend with. They must either include such cases in their returns without question, knowing them to be inaccurate, or else question the diagnosis. Which of these alternatives are they to select?

I am, Sirs, yours faithfully,

April 17th, 1893. M.O.H.

THE BACILLUS OF INFLUENZA.

IN the latest number (March, 1893) of Virchow's *Archiv* Dr. P. Canon contributes a paper in which he claims to have demonstrated the influenza bacillus in the blood of patients suffering from the disease. The method of staining and the microscopical difficulty of examining several specimens of blood carefully render this discovery at present inapplicable for clinical work. Dr. Canon uses the following stain as recommended by Plehn for the plasmodion of malaria: Concentrated watery solution of methylen blue, 40; ½% eosin solution (in 70% alcohol), 20; Aq. destil., 40.

Mr. J. T. Biggs can hardly expect us to take his proposal seriously, for the subject he refers to is one for medical testimony alone; and with all respect we must venture to question our correspondent's capacity to decide it.

"A CASE FOR DIAGNOSIS."

To the Editors of THE LANCET.

SIRS,—The condition mentioned by "J. D. R." is apparently of the same nature as the disorder which I described in THE LANCET of Jan. 25th, 1890 ("On a Subjective Sensation of the Mouth in Women"). So far as I know the affection had never been previously noted, nor have I since the publication of my paper seen any recorded cases. I am therefore much interested in the brief account of your correspondent and also in the fact that his patient is a male.

I am, Sirs, yours truly,

Harley-street, W., April 15th, 1893. W. B. HADDEN.

"UNQUALIFIED PRACTITIONERS."

Mr. Clement H. Sers, in reference to our remarks on the above subject (p. 875), whilst not disputing our contention that the employment by the profession of unqualified assistants is fraught with evil both to the principal and to the public, urges that medical contract work has acted still more injuriously by instilling into the public mind the idea that medical services can be bought for almost nothing. Our correspondent thinks the time has now arrived when medical men should do all that lies in their power to discourage lay associations for the provision of medical aid, since medical work connected with them must necessarily be performed at a rate unremunerative to the medical officer, whilst the members on their part derive less benefit from his services than they feel they are entitled to receive.

"HOW UNION APPOINTMENTS ARE MADE."

To the Editors of THE LANCET.

SIRS,—I have read the letters in THE LANCET *re* union appointments and village practice. I am simply a village practitioner and can hunt, fish and shoot, but would not disgrace my profession by taking an appointment under the board of guardians at the price paid.

I am, Sirs, yours very faithfully,

A. COWLEY MALLEY, B.A., M.B., B.Ch., T.C.D. &c.

Munslow, Craven Arms, Salop, April 7th, 1893.

UNION APPOINTMENTS AND UNOPPOSED PRACTICES.

Rusticus, in reference to a letter signed "M.B., C.M. Edin." in our last issue, raises objections to the views set forth by our correspondent with respect to the way in which union appointments are made. "Rusticus" quotes a passage in the letter and says he "questions if he [the writer] knows much of the subject he proposes to enlighten us on. .... If a village medical man is incompetent there are but few places where another medical man cannot be obtained except by the poorest; and to talk of neglect and exorbitant charges is mere rhodomontade." He thinks "it is absurd for two men to try to cut each other's throats," and he fails to see any healthy competition in it. Of course differences in locality and in circumstances generally will account very often for variety of opinion in respect of the subject raised in our correspondent's communication; but we do not see that any advantage could be gained by extending the controversy.

THE PROOF OF THE PRESENCE OF BACILLI IN DIPHTHERIA.

To the Editors of THE LANCET.

SIRS,—The question has been asked me at our local board meeting as to whether, by any process whatever, microscopical, chemical or biological, it is possible to say definitely that a given sample of water contains the germs of diphtheria. I know that certain bacilli have always been held to occur in diphtheritic membrane, but I believe no experiments of isolation, cultivation and reproduction of disease, such as alone can be conclusive of the presence of diphtheritic bacilli, have been made. I should be much obliged for any information on this point, especially as to the names of authorities on the subject, as these always carry much weight with lay people.

I am, Sirs, yours sincerely,

Grays, April 10th, 1893. SIDNEY H. SNELL, M.D.Lond.

*** In answer to our correspondent, we cannot do better than refer him to Dr. Sims Woodhead's "Bacteria and their Products," published by Walter Scott, 24, Warwick-lane, Paternoster-row. He will find in this little book not only a *résumé* of Roux and Yersin's inoculation experiments with the Klebs-Löffler bacillus, but also a list of publications to which he may turn for further information. In addition to these references Dr. Snell may consult the Medical Officers' Supplement to the Annual Report of the Local Government Board for 1888 and 1889, in which he will find valuable papers by Dr. Klein upon the subject in which he is interested.—ED. L.

AMBULANCE SERVICE OF LONDON.

A CORRESPONDENT wishes to know what are the duties of the various ambulance services in London and how those services can be called into requisition; also the addresses of the offices of the undermentioned Associations: St. John's Ambulance, the Hospitals Association, the Street Accident Service, the Metropolitan Asylums Board's Service, and the London Ambulance Service.

Mr. H. G. Dixon has omitted to enclose his address.

A DISCLAIMER.

To the Editors of THE LANCET.

SIRS,—In your issue of to-day you publish a copy of a circular which has been distributed in the neighbourhood of Grosvenor-square and has the address "39, Weymouth-street" appended to it. As I lived at that address for a little over two years and only left there about twelve months ago, I am anxious that my name should not be in any way connected with the circular in question. I shall be glad if you will insert this disclaimer in your next issue. Thanking you in anticipation,

I am, Sirs, yours truly,

West Halkin-street, S.W., April 15th, 1893. EDWARD COTTERELL.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*The News, Newcastle Daily Chronicle, Christian World, Midland Counties Herald, Toronto Week, Guardian, Elgin Courier, Derbyshire Courier, Toronto Umpire, Birmingham Daily Post, Burton Chronicle, Orkney Herald, The Morning, Worcestershire Advertiser, South London Press, Glasgow Evening News, Glasgow Herald, Worcestershire Echo, Lurgan Times, Leeds Mercury, Liverpool Daily Post, Yorkshire Post, Bristol Mercury, City Press, Bombay Gazette, Sydney Morning Herald, Galignani Messenger, East Anglian Times, Wolverhampton Chronicle, Coventry Times, Local Government Chronicle, Mining Journal, Western Morning News, Weekly Free Press and Aberdeen Herald, Food, Drugs and Drink Journal, Reading Mercury, Hertfordshire Mercury, The Cambrian, West Middlesex Advertiser, Citizen, Sanitary Record, Guy's Hospital Gazette, Surrey Advertiser, Pioneer Mail, Times of India, West Middlesex Standard, Scottish Leader, Le Temps (Paris), Penrith Observer, Cheshire City News, Sunday Times, Builder, Architect, Dorset County Chronicle, Bury Free Press, Suffolk Times, Kentish Observer, Cumberland Pacquet, Ulverston Advertiser, Durham Chronicle.*

Communications, Letters &c. have been received from—

A.—Dr. A. G. Auld, Glasgow; Mr. F. Adams, Ipswich; A., London; A.B., London.

B.—Dr. E. Beck, Ravenstonedale; Mr. C. Birchall, Liverpool; Mr. A. Bobardt, Ashmansworth; Mr. G. K. S. Bigg, London; Mr. T. H. Bishop, Portsmouth; Mr. Cecil F. Beadles, Colney Hatch; Mr. Thos. W. Bailey, London; Mr. J. T. Biggs, Leicester; Mr. E. J. Bles, Plymouth; Messrs. Battley and Watts, London; Messrs. C. Barker and Sons, London; Messrs. Burgoyne, Burbidges and Co., London; Messrs. Burroughs, Wellcome and Co., London.

C.—Dr. Ernest Clarke, London; Dr. Arthur H. Clemow, London; Dr. W. S. Church, London; Mr. Edward Cotterell, London; Mr. E. Crutchloe, London; Signor C. Clausen, Palermo; Mr. T. J. Carter-Rackham, Norwich; Messrs. Crossley, Moir and Co., London; Messrs. Condy and Mitchell, London; Messrs. J. and A. Churchill, London; Cantab.; Circumcision.

D.—Dr. Thos. Dutton, London; Mr. W. J. Dawson, Leeds; Mr. F. J. Davies, Cwm Carne; Mr. R. A. Dove, Edinburgh; Messrs. Duncan, Flockhart and Co., London; Derby Royal Infirmary, Secretary of; Derby County Asylum, Clerk of.

E.—Mr. A. Eldred, London; Edinburgh University, Dean of.

F.—Dr. R. W. Felkin, Edinburgh; Mr. R. E. Farrant, London; Mr. J. Reginald Fuller, Birmingham; Mr. H. W. Freeman, Bath; Mr. A. E. Frost, London; F. W. J., London.

G.—Dr. W. R. Gowers, London; Dr. Ralph Gooding, London; Dr. Dundas Grant, London; Mr. W. George, Preston; Mr. R. Gravatt, London; G., London.

H.—Dr. W. B. Hadden, London; Dr. P. R. Hay-Jagannadham, Bussorah; Mr. W. F. Howlett, Wellington, N.Z.; Mr. Alex. F. Hunter, Edinburgh; Messrs. T. Hopkinson and Co., Nottingham; Messrs. Heywood and Co., Manchester.

I.—Dr. M. Ismail, Hyderabad, Deccan; Mr. A. H. Iles, Fairford; Messrs. A. and J. Inglis, Glasgow.

K.—Dr. T. N. Kelynack, Manchester; Mr. Lawrence Kirk, London; Messrs. Krohne and Sesemann, London; Messrs. Kegan Paul and Co., London.

L.—Surg.-Lt.-Col. Lawrie, Hyderabad; Messrs. Lilley and Skinner, London; London, London; Leeds General Infirmary, Secretary of; Lancet, Darlington.

M.—Dr. F. Mouat, London; Dr. W. Murrell, London; Dr. John Meredith, Somerset; Mr. J. Grant Mills, London; Messrs. Mather and Crowther, London; Messrs. Merck and Co., New York; Manchester Royal Infirmary, Secretary of; Medical Society of London, Secretaries of; Medicus, Ramsgate.

N.—National Hospital for Diseases of the Heart, Secretary of; Nottingham General Hospital, Secretary of; Newcastle-on-Tyne Corporation, Medical Superintendent of; Nucleus, London.

O.—Dr. L. H. Ormsby, Dublin; Mr. Openshaw, London; Owen's College, Principal of.

P.—Mr. W. B. Paterson, London; Mr. J. Pace, Newcastle-on-Tyne; Miss Parker, Old Colwyn; Messrs. Place and Thistlewaite, Manchester; Pupil, London.

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REPORT OF THE LANCET COMMISSION

APPOINTED TO INVESTIGATE THE SUBJECT OF THE

ADMINISTRATION OF CHLOROFORM

AND OTHER ANÆSTHETICS

FROM A CLINICAL STANDPOINT.

ANOTHER class occurs during "incomplete anæsthesia"—that is, before the patient has passed beyond what Dr. Snow termed the "second degree of narcosis." In Series A, Case 1 (the sitting posture), the distension of the stomach with food and dread of the operation seem to have contributed to the fatal result; whilst the very painful nature of the operation—avulsion of the nail—during incomplete anæsthesia probably induced the attack of syncope (Snow) to which the patient succumbed. In Series A, Case 3, incomplete anæsthesia was noticed, the operation being commenced before true narcosis was arrived at, and the attempt to force the $CHCl_3$ led to "overdose." Case 4 is another instance of "incomplete anæsthesia." Case 5, a further instance of this, is interesting as having occurred at Hyderabad (1848). In Case 30 fresh $CHCl_3$ is reported to have caused "spluttering," an expression which would appear to indicate that the strength of the vapour employed set up considerable interference with respiration, leaving no doubt as to an overdose. In these cases it is important to remember that an "overdose" may be taken in any of the degrees of narcosis and may kill at once without causing the patient to pass through the other degrees. Thus in the first degree the sudden intake of too concentrated a vapour will determine sudden death, probably by immediate poisoning of the medullary centres. The responsibility incurred by the operator in permitting chloroform to be given to his patient is greatly influenced by the circumstances of the case. In one instance the patient (a medical man) was permitted to hold the towel saturated with chloroform over his own face and a fatality resulted. The symptoms described (Series B, Case 1) point to an overdose. In another instance (Case 13) the patient, who was a medical man, is again mentioned as having given himself the chloroform; he was seated in a chair and displayed "great agitation as soon as the tooth was extracted." In the instance already cited the master of a workhouse appears to have given chloroform. In Series A, Case 2, the persons giving the chloroform appear to have been dentists who did not possess a medical diploma and who do not seem to have had adequate knowledge of the agent they were using, as even upon the onset of alarming symptoms they kept the patient in the sitting posture, and, further, they attempted to use an ether inhaler in the employment of chloroform—ignoring the fact that the two anæsthetics, chloroform and ether, should be administered according to totally different principles and by most diverse methods.

Case 63. The patient's mother was given the limb to hold whilst the operator commenced his examination of the foot. There can be little doubt that to relegate such a duty to unskilled persons, especially to those who would certainly watch the operation rather than the patient's respiration, is increasing the risk to the patient.

Case 64. The chloroform was administered by a druggist with a view to tooth extraction.

Case 75. A child is reported to have held the cloth from which the chloroform was inhaled. The patient was in the habit of dosing herself for the relief of neuralgia.

Re-administration of chloroform during an operation.—It is noticeable that in a number of cases the patient is described as having either partly resumed consciousness or some symptom is mentioned which seems to justify the suspicion that the third degree was not maintained and that either the second or first was re-entered; then more chloroform was given and the patient suddenly died. Thus in Series A, Case 7, the breathing after being "stertorous" grew feeble and necessitated the employment of artificial respiration with the desired effect of restoring consciousness. $CHCl_3$ was then resumed and death at once took place. In this case it seems probable that, besides too strong a dose being given and the patient being carried into the fourth degree of narcosis, he was subjected to an additional and lethal dose when his respiratory centre again began to act. In Series A, Case 28, to avert return to consciousness fresh $CHCl_3$ was given—presumably a fairly strong dose, as we are told that the patient "held his breath." Snow's inhaler was used in this case, which, if properly managed, is believed to ensure an even and safe evaporation of the $CHCl_3$. The danger of breath-holding consists in (*a*) incarcerating what $CHCl_3$ is already in the blood, (*b*) leading to an abnormally deep inspiration, with its consequence—viz., increased intake of $CHCl_3$.

Case 86. The reapplication of $CHCl_3$ appears to have determined the fatal syncope.

Miscellaneous Notes.—Series A, Case 13, is an instance of overdose. In Case 35 of the same series respiration is stated to have been maintained for twenty minutes after all evidence of heart movements had been lost. Case 38 may be taken as an example of many cases to be seen in the epitomes before us in which death followed the induction of anæsthesia in a person the subject of strangulated hernia. The peculiar liability to fatalities under these circumstances appears to obtain alike under all anæsthetics. It would carry us beyond our present purpose to discuss whether these deaths were due primarily to the anæsthetic, or to the enfeebled state of the patient, or to the involvement of the large sympathetic plexuses of the abdominal cavity; but one thing is certain, that no class of cases is subject to graver risk under anæsthetics than is that under discussion.

Case 43. Inhalation of chloroform for forty minutes without producing complete narcosis certainly reveals a faulty method. The extreme slowness, as the extreme rapidity, of induction of unconsciousness is not free from danger. In the former case the stage of struggling and excitement is greatly prolonged, and, besides exhausting the patient, has the danger of forced inbreaths of $CHCl_3$ referred to under the heading "Deaths in narcosis of the second degree."

Case 54 is extremely curious, as the patient is distinctly stated to have resumed consciousness before death. The death was probably purely syncopal.

Case 58 illustrates the danger of leaving the patient unwatched as he is resuming consciousness. The passage from a higher to a lower degree of narcotism is commonly associated with a diminution of blood-pressure, a weakening of the pulse and a tendency to vomit, and the utmost vigilance should be displayed, in the case of persons recovering consciousness, to guard against these dangers.

Case 62. The $CHCl_3$ employed in this case was said to have been of a very irritating nature, from the development in it of impurities. There can be no question that the presence of hydrochloric acid, free chlorine and other gross impurities increases the danger of the employment of the drug. It is, however, stated by manufacturers of repute that properly protected $CHCl_3$ will remain pure, except for a small and unimportant quantity of alcohol, for an indefinite time. This will not be the case if air has access to it. The death in the case under review appears to have been the result of spasm of the larynx.

Case 84 is an instance, of which others may be noticed, in which even if the $CHCl_3$ was the determining cause of death there were many adjuvant causes so powerful in their effects as to make it doubtful whether they, rather than the $CHCl_3$, were not responsible for the fatal termination of the case.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
520	41	F		Junker's Inhaler.	P. & R.	When half way through operation, R. and heart's action ceased, and pupils became widely dilated.	Syncope.	
521		M	Reduction of dislocation of right shoulder joint.					
522	65	M	Exploratory for tumour in abdomen.		P. & R.	Before operation was begun, patient gave 1 or 2 gasping inspirations and ceased breathing and heart stopped. Every effort for restoration made without avail.	? Syncope. P.M. Heart healthy. Malignant disease of stomach.	Heart carefully examined before administration.
523	24	F	Operation for lupus of face. (7 or 8 minutes)	Skinner's Inhaler. ½ dr.	R.	At beginning of operation as signs of returning consciousness were seen more $CHCl_3$ given. Then patient suddenly stopped breathing. Tongue drawn out with forceps and artificial R. for ½ hour (Silvester's method). Galvanic battery and nitrite of amyl inhalation.	Asphyxia; heart having ceased to beat, subsequently to respiratory failure. P.M. Heart sound.	Patient in good health, had no cardiac or respiratory disease. Had taken $CHCl_3$ five times previously for similar operations.
524	39	M	Removal of tumour from back of shoulders.	2 dr.	P. & R.	Patient took $CHCl_3$ readily, was turned on side. R. ceased and heart also, at same time face became cyanosed. Artificial R. and inversion resorted to.	"Paralysis of lungs." P.M. Fatty heart but no valvular disease.	Patient had undergone operations for similar growths. Examination before this administration led to conclusion that patient "had weak heart but no valvular disease."
525	56	M	Reduction of fracture of femur.			Patient succumbed before reduction could be made.		
526	30	F	Removal of small subcutaneous fatty tumour of face.	On diaper. About from 2 to 3 dr.	R.	Cutting had just begun when R. suddenly stopped. Heart beat first well then feebly for 2 minutes after R. ceased.	Failure of R. P.M. Heart quite sound, no fatty degeneration.	Heart, lungs and other organs seemed quite sound before administration.
527			Examination of intestinal obstruction.	1½ dr. (Towel.)	P. & R.	No alarming signs while abdomen was explored. After injection of ½ pint of soap and water into bowel, face turned blue and breathing ceased, the child's body also having been raised. Artificial R., inversion, flicking with wet towel, tried for 35 minutes. Heart stopped with R.	"Reflex shock producing paralysis of respiratory and cardiac centres." P.M. Intestines: obstruction caused by band compressing duodenum. No peritonitis or inflammation. Lungs congested, containing air. Heart: walls and valves healthy. Both sides empty and contracted.	Had had trouble with bowels since birth. Bowels had not been moved for 14 days
528	9	M	For rupture of right eye.			Patient seemed to have recovered when he suddenly turned pale and faint. Every possible remedy applied without avail.		
529	60	F	Amputation of finger of left hand.		R.	R. ceased immediately $CHCl_3$ was given, All efforts at resuscitation unavailing.	Failure of R.	
530		M	Removal of tumour in throat.			Death ensued before operation took place.	Death ensued from effects of $CHCl_3$.	
531	51	M	Probing of abscess of thigh.			Death ensued before patient fully anæsthetised.	P.M. Heart healthy, but poorly nourished.	Had been operated upon successfully under $CHCl_3$ about 10 days previously. See also Brit. Med. Journ. Oct. 4, 1890, p. 789.
532	36	M	For fracture of patella.	150 grammes.		The operation was performed, and the patient so far recovered. Was slightly delirious for 2 nights. On 3rd day wound looked well. Temperature 100·50, P. 96. Rather feeble. In course of evening P. grew weaker, delirium increased, and patient died.	"Fatty degeneration of heart actually caused by anæsthetic." P.M. Muscular walls of heart in state of extreme acute fatty degeneration; similar change had attacked fatty cells. Prof. Thiem and Fischer observed similar changes in	Patient robust and temperate; miller's man; accustomed to carry weights, till day he broke patella. No previous evidence of any form of heart disease.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
							heart and liver of animals kept under $CHCl_3$, especially when dose was repeated for 2 or 3 days.	
533		M	For rib resection for pyo-pneumothorax.		P. & R.	Pupils suddenly dilated, heart and R. ceased almost instantaneously. Restorative measures unavailing.	Syncope; death being accelerated by diseased condition of lungs.	Had taken $CHCl_3$ for same operation several times before.
534	40	M	Opening up fistulæ in perinæum.		P.	Became very excited and face suffused; P. became weak, then stopped altogether, though breathing good. $CHCl_3$ at once removed; breathing failed after 45 seconds. Artificial R. and other means used without avail.	Cardiac syncope, owing to strain put upon heart. P.M. Heart: valves healthy; walls of right ventricle rather thin. Lungs infiltrated with tubercle. Liver slightly fatty.	Intemperate.
535	10	?	For knock-knee.		? P.	At end of operation child suddenly became faint and in dangerous condition. Artificial R. was tried, natural breathing resumed, but heart still failed. Injections of ether tried, but useless.	Syncope.	Patient had been examined before administration and found healthy.
536	64	M	Reduction of dislocation of thigh.		P.	Heart suddenly stopped. Operation had been performed.	Syncope. P.M. Heart with very thin walls.	Examination of heart before operating gave no evidence of disease.
537		M	For enucleation of eye.			Died under anæsthetic.		
538		M	Suturing fractured patella.	Inhaler. 1½ dr.	P.	Within ½ minute of loss of consciousness heart ceased to beat, and death took place in spite of all efforts at resuscitation.	Syncope. P.M. Fatty degeneration of heart.	
539	24	M	For urethrotomy for urethral stricture.	Small dose.	P. & R.	R. and circulation stopped at same moment. Artificial R. tried and continued for ¾ hour with no result.	Assumed that death due to shock caused by incision, weakened by leukæmic discrasia.	
540	7	M	Amputation of thigh.			Death took place before amputation completed.		
541	72	F	Removal of glaucomatous eyeball.		? P.	Died whilst under the influence of the anæsthetic.	Syncope. P.M. Heart weighed 14 oz. and was fatty.	
542	1½	M	Putting up diseased ankle in splint.			Died under chloroform.	P.M. Heart greatly dilated and hypertrophied without apparent cause. Weighed more than that of a child of 3 years old.	
543		F	Excision of mole from cheek.			After operation no return to consciousness, and when measures for resuscitation were taken patient was seized with a convulsion and expired.		
544	46	M	On arm. (9 minutes.)	1 dr. Esmarch's Inhaler.	P. & R.	Breathing became stertorous and heart's action and R. ceased. Operation had been begun. Ether and brandy injections, galvanic battery and artificial R.	Syncope. P.M. No evidence of organic disease in heart. Liver: slight fatty degeneration.	
545		M	Reduction of dislocation of shoulder.			Patient succumbed during manipulation of joint.		
546	20	F	Examination for obscure affection.		P.	Before anæsthetic stage was reached, P. became weak and patient expired.	? Syncope.	
547	17	M	Exploratory incision over right hypochondrium.	Wire and lint mask. 6 dr.	P.	Soon after administration marked diminution in P. beats, but they soon became stronger and breathing regular. In 20 minutes face became pallid, P. stopped, and breathing irregular and gasping.	"Reflex paralysis of heart." No P.M. allowed.	Had suffered for 6 months from colic of uncertain origin, for which hypodermics of morphia had been used and in increasing doses.
548	11	F	Removal of nævus.	Esmarch's Inhaler.	P. & R.	Operation almost performed when general convulsions came on; breathing and heart beat ceased, a few gasps and patient was dead. Measures resorted to were: Artificial R., ether, whisky and nitrite of amyl injections, and electricity.		

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
549		?F	For mammary abscess.					
550	60	M	Amputation of arm for injury caused by burn.			At commencement of operation epileptic seizure took place and patient died.	Syncope and epilepsy.	Patient was epileptic.
551	28	M	For fracture of ankle.					
552	9	F	For iridectomy.		R.	Recovery had to some extent taken place when breathing stopped, extreme sudden pallor. Inversion, ether injection, brandy and battery tried, and artificial R. kept up for 2 hours, all with no effect. Patient not deeply under $CHCl_3$.	Syncope. P.M. Appearances *nil*, except adherent pleuræ.	
553	49	F	For drainage for empyema.		? R. P.	After a few inhalations breathing became suddenly irregular and then ceased. Artificial R. kept for ¾ hour without result.	P.M. Heart in advanced state of fatty infiltration. Collection of fœtid pus in right pleura, and lower part of lung gangrenous.	Intemperate. Had pneumonia of right base.
554	30	F	Plastic operation on face for restoration of nose.	Quantity not measured but not excessive.	P.	Patient had just become unconscious when P. ceased, though R. quite regular and not stertorous. In a few seconds breathing failed. Artificial R. for 1 hour failed to restore action of heart and R.	Syncope.	Before administration no evidence of disease beyond enlarged spleen. Heart and lungs healthy.
555		M	Harelip.			"Death under $CHCl_3$."	Shock.	
556	49	M	For œdema and stiffness of left hand after a Colles' fracture.	1 or 1½ dr.	P.	Patient's face became somewhat dusky. P. failed. After 4 or 5 deep gasps R. stopped. Artificial R. for ½ hour, and ether injections over heart, without avail.	? Syncope. P.M. ⅜ inch fat over chest, lungs emphysematous; some muco-pus in bronchi. Heart loaded with fat on surface; no fatty degeneration.	Patient subject of chronic bronchitis, otherwise healthy.
557	30	F	Removal of ovarian tumour.	Junker's Inhaler.	? P.	Patient had only been inhaling 2 or 3 minutes, when she gave deep sigh, turned very pale, with dilated pupils, and expired. All restorative measures and artificial R. for ½ hour.	Syncope (apparently). P.M. Body emaciated. Heart dilated with thin walls; only one coronary artery. Cavities in apices of both lungs.	
558	36	M	For varicose veins.		? P. & R.	Struggled violently, $CHCl_3$ discontinued; turned pale and ceased breathing. Artificial R. begun but patient turned livid and did not breathe again. P. not perceptible. Not certain whether it stopped with breathing.	Syncope, induced by (1) struggling of respiratory and other muscles; (2) small dose of $CHCl_3$; and (3) malnutrition of heart, liver, kidneys and brain.	Appeared in robust health.
559	44	M	Removal of dead bone in case of abscess of right thigh and disease of thigh and bone. (Under 5 minutes.)	1 dr.	?	After inhaling less than 5 minutes, patient began to struggle, face became dark and congested. All measures possible used to restore without success.	"Death from effect of $CHCl_3$ on lungs and then on heart, through nervous system, which seemed weakened from excessive drinking."	Two months previously patient had undergone similar operation under 8 dr. $CHCl_3$ given over period of ¾ hour.
560	25	M	For empyema.			Patient succumbed in 4 minutes after beginning to inhale.	Syncope.	Patient in a very weak state, but wishing to have chance of operation.
561	58	M	Opening chest to evacuate empyema.		R.	Patient had only inhaled from ½ to 1 dr. $CHCl_3$ when breathing ceased. Artificial R. re-established breathing. Operation undertaken and nearly 1 quart of pus discharged. But P. feeble and no return to consciousness. Brandy given by mouth and swallowed. Pupils dilated but sensitive to light. Died in 1½ hours.	Cardiac syncope. "Chloroform acting on already enfeebled circulation caused depression. Probably also shock caused by removal of accumulated fluid from thorax."	Healthy man till 5 weeks previous, date of beginning of illness. No cardiac murmurs.
562	1½	F	Application of nitric acid to noma of hard palate and upper lip.	Guy's mask.		Anæsthetic taken well, insensibility in 4 minutes. Operation about to be begun when temporal P. became feeble, R. slow and sighing, slight pallor. Artificial R. begun before natural breathing ceased and carried on for ½ hour. Galvanism, hot fomentations, elevation and friction of lower extremities also tried—of no avail.		No evidence of cardiac disease. Ailing child since birth.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks
563 564							"Death due to chloroform pure and simple" (? overdose).	
565	?	?	For strangulated hernia; tracheotomy also performed.			Vomit entered the trachea.	Asphyxia.	A "remote death."
566	27	M	Amputation of fore-arm.			Recurrent hæmorrhage made re-amputation necessary. While under $CHCl_3$ patient vomited, portion of vomit, "pulp of orange," entering windpipe. Tracheotomy performed. Patient survived 5 hours and died suddenly from syncope.	Syncope.	A "remote death."
567	14	F	Forcibly moving knee after osteotomy.			Symptoms resembled those of severe shock.		
568	25	F				Patient is said to have fainted during administration. All measures adopted proved futile.	Cardiac syncope.	
569	41	M F	For cancer of tongue.	Skinner's apparatus.		Gave but 2 or 3 inspirations when he died suddenly as if shot through the heart. Every endeavour to restore consciousness failed. Breathing not impeded. No pallor.	Failure of heart's action.	Had undergone operation under ether 4 days previously. Examination of heart previous to operation disclosed nothing the matter.
570								
571		F			R.	Almost immediately after $CHCl_3$ had been given breathing ceased. Measures adopted not stated.	Syncope.	
572					R.	R. ceased and inhalation was at once stopped.		
573	44	M	Removal of fibrous tumour of right patella. (6 minutes.)	2½ dr.		After patient was fairly under and small incision made, pupils became dilated suddenly and breathing shallow.	Syncope.	
574							"Failure of R."	Patient was in a state of partial recovery from bronchitis when $CHCl_3$ given.
575								
576								
577	30	M	To open abscess in neck.			Almost as soon as he was under the influence of the anæsthetic he turned pale and in spite of every effort at resuscitation he died.	Syncope. P.M. Heart and lungs perfectly healthy, only small quantity of fluid in stomach.	A healthy young man.
578		M	For fistula in ano.			Patient took anæsthetic and was quickly under its influence. Inhalation stopped and patient turned over on right side. It was then seen that he was not breathing.	? Syncope. P.M. Left ventricle of heart found to be dilated and in a state of fatty degeneration. The right side of the heart and the veins full of blood.	Patient had had ague. Examination of heart beforehand discovered nothing.
579		M	Opening abscess in jaw after extraction of tooth.		R.	Breathing suddenly ceased, was restored by artificial R. and other measures, heart keeping good. Violent convulsions set in, and death occurred in ½ hour from exhaustion. Operation had been performed.	Exhaustion.	
580	33	M				During the struggling stage the cardiac action failed and the man died in a few seconds.	Syncope.	
581	14	M	Amputation of fore-arm.				P.M. Lungs: double pleurisy. Heart: mitral and aortic incompetence. No fatty degeneration. Kidneys: very cystic, containing 32 oz. fluid.	

Case 582. For cleft palate. After $CHCl_3$ had been given, showed signs of returning consciousness, operation not being commenced. More $CHCl_3$ given. Ceased breathing, and though artificial R. resorted to, suddenly expired.

Case 583. For piles. Chloroform, which was pushed no further than producing analgæsic effect, was taken well by patient. Suddenly patient succumbed. Resort had to artificial R., but all efforts futile. Case 584. Removal of 3 teeth. Patient died during operation.

DEATHS UNDER CHLOROFORM.

CASES BETWEEN 1860 AND 1891 FROM PUBLISHED RECORDS (*continued*).

1 Reference.	2 Age.	3 Sex.	4 Operation and duration of administration.	5 Method of administration.	6 P. or R.	7 Symptoms occurring under anæsthetic.	8 Assigned cause of death.	9 Remarks.
585	14	M	Trephining for injury to head.			About 10 minutes after the operation had commenced patient became faint and his breathing ceased. Attempts were made to restore R. and were to some extent successful, but the heart's action suddenly ceased.	Syncope. P.M. Brain was lacerated, quantity of blood near the wound.	
586	62	M	Hæmorrhoids.			When operation about to be begun patient's face became blue and breathing ceased.	Failure of heart's action.	
587	11	M	Extraction of roots of teeth in case of alveolar abscess.	(Towel.)	P.	The roots of one tooth had been successfully extracted and a little more chloroform was given to extract two other decayed teeth, when patient suddenly turned pallid, breathing continued, but P. lost.	Syncope.	Sitting posture. Had suffered from a decayed tooth in left inferior maxilla which set up alveolar abscess. Two unsuccessful attempts had been made to extract the roots, on previous occasions, by a dentist other than the one who extracted them.
588	39	M	To relieve urgent symptoms (? in what). (10 minutes.)	Inhaler. (Wire cage with flannel.) 2 dr.	R.	Was being turned over when he gave a gasp and ceased breathing. Was laid across bed and artificial R. (Sylvester's method) commenced and kept up for 1 hour with no effect.	No P.M.	
589	42	F	Reduction of dislocation of shoulder some months old.	Flannel Inhaler.		Soon after commencement of inhalation patient became very excited, chloroform being continued but not pushed. Soon became quiet and then at once stopped breathing. Anæsthetic stopped.	P.M. Heart: right ventricle distended with fluid blood; left contracted in systole; muscle pale and fatty. Lungs: congested and œdematous.	
590		M	For varicose veins.	20 or 30 drops on lint.	? P.	Breathing became shallow and face pale; P. fair and reflexes persisting. Condition became rapidly dangerous. Restorative measures used.	Syncope.	Seemed organically healthy, although ill-looking and anæmic.
591	21	F	Abscess (less than 5 minutes).	Teaspoonful given in ordinary manner.		Died at a moment's notice.	Syncope and "not from *chloroform*."	Robust.
592	27	M	Incising leg to let out pent-up pus (sloughy cellulitis over left shin).			Breathing became slow and gasping; tongue pulled out but symptoms became worse. No P. could now be felt. Ammonia applied to nostrils, hypodermic of sulphuric ether (2 dr.); battery to nape of neck, and alternately over phrenic nerves and præcordium. Artificial R. (Silvester's method) employed from beginning of alarming symptoms, patient only gave few gasps. Measures discontinued after 1 hour. At beginning of bad breathing, pupils moderately contracted but quite insensible to light.	Syncope. P.M. Heart sound as to valves, but very thin-walled, soft and fatty. Liver large and fatty.	Fairly healthy-looking, but it was afterwards ascertained that he had been "living on drink for several days," though said to have been only moderate drinker.
593	37	F	Putting splint on arm that had been fractured.	Folded lint.	P.	Before splint could be applied P. suddenly failed and R. became sighing and irregular, and in spite of hypodermics of brandy and artificial R., no rally could be induced.	? Syncope. P.M. Body fat, with signs of alcoholic excess and venereal disease. Heart large, pale, contracted, with dark fluid blood.	
594	36	M	Removal of lipoma over left iliac crest.	(Towel.)	R.	Struggled at first. Directly relaxation came on, towel was removed and he had no more $CHCl_3$. Was turned on right side still breathing well. Just before commencement of operation breathing ceased suddenly. Tongue well out but pulled more forward with forceps, and artificial R. started which was continued for almost 1 hour. Nitrite of amyl, hypodermics of ether, and battery used without any response.	"Paralysis of R." P.M. Organs all healthy.	Was strong and robust, with good, full and regular P. It was found out after his death that he had taken $CHCl_3$ before, and badly, had been dreading this operation for some time.
595	?				P.	Attack of syncope came on during administration of chloroform. R. continued after heart had ceased to beat.	Syncope. P.M. Hypertrophied heart with dilated left ventricle; no valvular disease or malformation.	

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596	58	M	Removal of folds of false tissue about anus. (Rather over ½ hour.)	Skinner's inhaler.	P. & R.	Patient went easily under. About 5 minutes after operation 2 oz. of fluid with small milk-curds vomited. Radial P. and R. ceased together; pallor of face and hands.	P.M. Nothing abnormal seen about the heart. Brain normal. Veins of pia mater excessively engorged and all the viscera dark engorged with blood.	

DEATHS RECORDED IN REPLY TO THE LANCET SPECIAL INQUIRY.

SERIES C comprises a number of fatalities under chloroform which were reported to the LANCET through the medium of the special enquiry form issued by the LANCET to the hospitals as well as to practitioners. As we had occasion to mention above, most of the cases which were originally comprised in this Series, were also reported in the medical journals, and where this was the case we have allowed the reports to appear among the deaths occurring between 1848 and 1864, or among those deaths reported in the journals which took place between 1864 and 1891, and have excluded them from the present series. The first section deals with reports of cases received from hospitals, and the second with those which have reached us from private practitioners.

I.—HOSPITALS.

1.—Male, aged 35. Tracheotomy for diffuse inflammation round larynx (1 minute). Chloroform given, flannel on wire frame. Respiration failed first.

2.—Female. No particulars given.

3.—Male, aged 42. Incision into thumb. Died before operation.

4.—Male, aged 40. Abscess in neck. Had mitral disease.

5.—For empyema. Pupils dilated and heart suddenly failed. Syncope.

6.—For phimosis. Before operation could be begun, death occurred suddenly. Syncope.

7.—Male, aged 15. Removal of left eye. Epileptiform seizure on right side and death. Cause assigned for death, "central epileptiform attack."

8.—Male, aged 8. For contracted fingers from old burn. Chloroform given (on lint) 1 dr. Pulse and respiration ceased simultaneously. "Pallor, blue lips and cheeks, pupils dilated to the full. Respiration did not completely cease. Measures used were: Drawing out tongue with forceps, raising legs, artificial respiration, faradic current. Air entered chest, but no pulse felt." "Death due to syncope. Post-mortem. Heart: right side full of dark fluid blood; left, contracted and empty. Other organs healthy. Patient well developed."

9.—Male, aged 60. Reduction of Pott's fracture (3 days old). (10 minutes). Chloroform (towel). Post-mortem. Advanced degeneration of heart. Hard drinker.

10.—Male, middle-aged. Forcible catheterism (a few seconds). Chloroform (Skinner's inhaler). Respiration failed first. Death probably due to effects of chloroform, and uræmic poisoning. An intemperate seafaring man with almost complete urethral stricture.

11.—Male, aged 38. For dislocation of shoulder. (Skinner's inhaler). Respiration failed first. Patient fully under chloroform 1 minute, when signs of asphyxia appeared, then pulse stopped suddenly; but patient breathed twice after. Dorsal decubitus adopted. Measures of resuscitation were—(1) artificial respiration; (2) raising legs; (3) hypodermic ether; (4) cold affusion; (5) nitrite of amyl; (6) forcible traction on tongue. Post-mortem. Well marked signs of death from asphyxia; venous engorgement of brain and meninges. Heart very flabby, great loss of muscular tone, no fatty degeneration, right side of heart full of blood.

12.—Male, aged 25. External urethrotomy; several minutes. Respiration failed first. Patient was thoroughly anæsthetised. Cause assigned for death, "Asphyxia, due to overdose of chloroform."

13.—Aged 10½. Necrosis of os calcis. No particulars.

14.—Psoas abscess, incision and drainage. Pulse failed first. "Death from sudden cardiac failure."

15.—Male, aged 40. Breaking adhesion in knee-joint (5 minutes). (Junker's inhaler.) Respiration failed first. Inhaler removed, and operation begun, when respiration suddenly stopped, face became cyanosed. Measures adopted for resuscitation were:—drawing forward tongue; opening windows; artificial respiration; application of hot flannels to heart; and injection of ether. Despite all efforts, he never rallied. Heart stopped almost directly after respiration. Post-mortem. Surface was more fatty than normal, though patient a spare man; walls of both ventricles thin and pale, muscular tissue at apex of right ventricle less than 3/16 inches thick.

16.—Female, aged 10. Exploration of hip. Anæsthetic given by house-surgeon. No particulars.

17.—Female, aged 16. Necrosis of tibia. No particulars.

18.—Male, adult. Removal of carious bone from finger. Chloroform on folded towel. Pulse failed first. When fully under, pulse became weak. Towel was at once removed. As respiration was good the incision was made, but it was noticed that very little blood flowed. Patient showing signs of returning consciousness, towel was again applied, without any additional chloroform. He inhaled a few times, and then respiration suddenly stopped. Post-mortem. *Rigor mortis* well marked. Cicatrices on right side of thorax, showing old-standing disease of ribs. Heart: rather small, pale, and friable; right side contained small quantity of dark venous blood. Microscopically: the muscular tissue of the heart was distinctly fatty. Right lung was intimately adherent to the costal pleura.

19.—Male, aged 28. Fistula. Post-mortem. Extensive pleural adhesions. Perforation of one lung, with collapse, result of superficial abscess.

20.—Male, aged 30. Excision of left shoulder; ¾ hour. Chloroform given by a student. Pulse failed first. Heart stopped suddenly just when a slight effort was being made to relax the bared head. Syncope. "The drag upon the brachial plexus probably as much the cause of death as the chloroform."

21.—Male, aged about 40. Incision and removal of facial tumour (sarcoma). Pulse failed first. After about six respirations patient started up, was held, towel with chloroform being still over face. While half sitting, fell back, having taken one breath; the heart seemed to have suddenly stopped. Died at beginning of 2nd stage, after the heart had stopped. Post-mortem. Cadaveric rigidity well marked. Lungs: healthy but congested. Heart: 22 oz.; cavities much dilated; left auricular ventral orifice admitted three fingers, mitral cusps slightly thickened at margins; lining membrane at arch of aorta atheromatous. Physical examination revealed presence of some cirrhosis of liver and a soft blowing murmur over mitral area of heart.

22.—Female, aged 15. Excision of elbow; 20 minutes. No particulars.

23.—Male, aged 13. Amputation at wrist; 40 minutes. No particulars.

24.—Male, aged 43. Exploration of caries of rib; 10 minutes. No particulars.

25.—Male, aged 59. Radical cure of hernia; on a towel. Became suddenly livid and limbs rigid, breathing shallow and heart weak, followed by death.

26.—Male, aged 14. Dislocation of elbow-joint; folded towel. Respiration failed first. After operation before consciousness returned, vomiting caused obstruction to respiration and death followed.

27.—Female, aged 36. Ovariotomy; only 1 or 2 whiffs. Respiration failed first.

PRIVATE PRACTICE.

1.—Female, aged 40. Entropion. Pulse failed first. Patient was just under the influence of the anæsthetic when the face became livid. Had been taking a good deal of alcohol and little food for some time before the operation.
2.—? Aged 35. Finger (amputation). Duration of anæsthesia, under 3 minutes. Heart failed before respiration.
3.—Female, aged 30. Labour (puerperal convulsions). No particulars.
4.—Incisions for pyæmia. No particulars.
5.—Patient, a European. For pyothorax. Respiration failed first.
6.—Male, aged 50. Stone in ureter. Chloroform (on towel).
7.—Male, aged 40. Tracheotomy (cancer of larynx); 2 minutes (perhaps less). Chloroform on flannel on wire frame. Respiration failed first. Patient started up as if choked on first inhaling chloroform. The administrator was then told to give the chloroform slowly; suddenly respiration ceased, pulse still flickering. Immediately after breathing ceased. The trachea was opened, and artificial respiration kept up ½ hour. Patient breathed twice imperfectly but never rallied. The cause of death was assigned as "mechanical obstruction to respiration" interfering with adequate breathing while inhaling the chloroform. Post-mortem. Engorged lungs, besides cancerous larynx.

DEATHS REMOTELY DUE TO THE ANÆSTHETIC.

WE have next to consider a series of cases in which death occurred as a result of chloroform, or presumably from that cause, but under circumstances which make it impossible to say that the anæsthetic stands immediately in causal relation to the fatality. These deaths have been classed as "remotely due to the anæsthetic." They include cases occurring from 1848. Some of the cases, although chloroform was assigned as the cause of death, seem simply deaths from the surgical procedure adopted. In the preceding lists several of the cases should have perhaps been also removed and placed under this heading, but the line is difficult to draw, and so when the narrators have positively stated the death to be the immediate result of the chloroform, it has been so classed by us.

Series A.—1848-1864.

1.—Male, aged 16. **Lithotomy. Lateral operation performed.** There was difficulty in removing the stone. Patient never completely regained consciousness after the operation; during the night constantly delirious. Felt pain when abdomen was pressed 14 hours after the operation, and died at end of 28 hours. No post-mortem. Had suffered from symptoms of stone for 12 months, previously very healthy.
2.—Female, aged 28. Removal of small mammary tumour. "A very moderate quantity" of the anæsthetic was given. Patient was very sick and faint afterwards, requiring stimulants. During the night was very restless, notwithstanding the exhibition of morphia. At 5 A.M. on the following day violent vomiting of thin biliary matter again set in and continued for several hours. She became unconscious and died at 11 P.M., 56 hours after the operation. For several hours before her death her pulse was quite imperceptible. The wound had healed by first intention. No post-mortem. She was a slight nervous woman.
3.—Female, aged 52. For onychia of the left thumb; anæsthesia ½ hour. Respiration and pulse failed together. The patient was long in yielding to the anæsthetic, requiring a "more than ordinary proportion of chloroform vapour to atmospheric air," passed suddenly from state of excitement to one of coma, which condition passed off in a minute or two and nothing unusual presented itself again, her pulse being rather better at the conclusion of the operation than at the commencement; rather less than ½ gr. morphia was injected beneath the skin of arm—"she had taken about 1 gr. in three doses during the night." After operation complained merely of feeling sick, was left quite comfortable at 1.30 P.M. Until 3 P.M. she remained perfectly sensible when she seemed to drop off to sleep, but soon after began to breath in a peculiar way. Her husband having examined her and finding her pulse, as he thought, good, was satisfied, as he was accustomed to hear her breath in this way when asleep. At 3.45 P.M. she was seen by her medical attendant, who was told that she was "sleeping nicely," and found her comatose, cheeks deep purple, lips livid, face cold, conjunctiva insensible, pupils contracted, not affected by light; breathing stertorous, about 3 respirations in a minute, gurgling expiration. Pulse 90, regular, small, weak. Mustard poultices were applied to epigastrium and calves of legs; ammonia to nostrils and lips followed by an enema of turpentine and coffee; respirations then increased to 6 or 7 in a minute; the pulse, too, improved in volume and power, and face grew less livid and dusky; 12 leeches also applied to temples but slight improvement soon gave way, pulse becoming feebler, respiration slower, till she sank gradually and died at 6 P.M., about 5 hours after chloroform had been discontinued. Very stout and of plethoric habit. Extremely timid and nervous. Had been suffering from onychia of the left thumb for several weeks, but would not permit any incisions to be made; under a fresh attack of inflammation she was persuaded to take chloroform for the purpose of operation.
4.—Male, aged 64. Removal of tumour of eyelid; ½ hour. Chloroform 1½ oz. Anæsthetic only produced slight drowsiness. Patient remained well until 6.0 next morning, and suddenly died about 18½ hours after chloroform inhalation. Post-mortem 24 hours after death—all organs healthy. Coagulability of the blood slightly diminished. Healthy peasant.

Series B.—1864-1891.

1.—Aged 30. In labour for 7½ hours, the chloroform given at intervals from a handkerchief, 3½ oz. being used. Died 5 days after administration from excessive vomiting. No abdominal tenderness. The cause assigned for death was exhaustion. The patient is described as being violent during the labour.
2.—Male. A ligature of femoral above profunda was about to be applied for gunshot wound of the thigh. He vomited during the operation, and subsequently sank and shortly died from what was at the time thought to be exhaustion; but there is no doubt that the true cause of death was asphyxia, for the post-mortem showed that the trachea was filled with vomited matter.
3.—Boy. Amputation of leg. chloroform given by "usual method." Boy is said to have been apparently quietly asleep, when upon chloroformist touching his throat, he said "Don't put your hand upon my throat." He remained with eyes open during the operation but appeared ignorant of what was going on. "In this case clearly consciousness was retained and sensation was clearly lost." Retention of consciousness apparently regarded as "untoward" symptom.
4.—Male, adult. Removal of tumours of eyelids. During operation the chin dropped, and face became deathly pale. Ammonia and water poured into mouth was not swallowed. Artificial respiration commenced by mouth to mouth insufflation. Then more ammonia given. In 1½ minutes respiration and circulation re-established, and operation concluded. About 4 hours later the patient suffered from sore throat. Respiration very difficult and pulse rapid. Died 36 hours later. Congestion of lungs caused by dilute spirits of ammonia having entered the lungs. Post-mortem. Report not given.
5.—Male, aged 29. Circumcision. Operation successful under chloroform, but followed by excessive and continual vomiting, which proved fatal on the ensuing day.
6.—Female. Amputation of left breast for cancerous tumour. Respiration failed first. Complete anæsthesia was obtained, after which semi-consciousness was allowed. Operation was long and dressing difficult. After operation all went well first day; on second, oppression and cough; next day respiration and pulse rapid, skin hot, bronchitis had set in, but there was no trace of pleurisy or pneumonia. In spite of active treatment and the application of a large blister, erysipelas appeared round the wound on 7th day, and on same day serious vomiting, which was allayed. Death took place about 11th day, the bronchitis getting worse than ever. The last symptoms were severe pains in the knees and ankles, which proved to be purulent arthritis of the femoro-tibial and tibio-tarsal joints. Asphyxia caused by bronchitis. Post-mortem. Purulent arthritis of the femoro-tibial and tibio-tarsal joints, but no other purulent deposit. Not far from the bifurcation of the trachea, over against the large bronchial tube of the right side was found an oblong tumour nearly as large as a chestnut, resulting from the calcification of an enormous bronchial ganglion. This had pressed on the pneumo-gastric nerve and had irritated it. Lungs red, in some places almost blackish-red, especially toward base of right lung, where there was a large area of ecchymosis. No hepatisation, pieces of lung floated in water. Pulmonary tissue softened however; bronchial tubes reddened and much irritated. Heart fatty, no valvular lesion. Kidneys congested; spots of ecchymosis as in lungs. Was exceedingly fat. Before anæsthetisation there had been a repeated and most careful auscultation which revealed nothing abnormal in either heart or lungs.
7.—Female. Removal of tumour from breast. Respiration failed first. There were no untoward symptoms at first after the operation, when bronchitis supervened with laboured breathing growing worse and worse. Death took place at end of 8 or 10 days. Asphyxia was the only apparent cause. No post-mortem allowed. The patient was very fat. There had been a most careful auscultation before giving the chloroform.